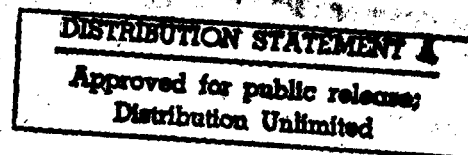


CONTRACT NUMBER DAMD17-92-C-2028

Analysis of Investigational Drugs in Biological Fluids -
Method Development and Routine assay

FINAL REPORT - APPENDIX B
for the Period January 15, 1992 - January 14, 1996

Principal Investigator: Dr. Emil T. Lin
University of California, San Francisco



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13. ABSTRACT (Maximum 200 words) Using the procedures described in this report, we were able to work sequentially or simultaneously on eleven projects (1-WR 238,605, 2-halofantrine (and its metabolite), 3-WR 6026 (and its metabolites), 4-mefloquine (and its metabolite), 5-artelinic acid, 6-p-aminoheptanophenone (and related compounds), 7-primaquine (and its metabolite), 8-gentamicin and paromomycin, 9-pyridostigmine, 10-chloroquine (and its metabolites), and 11-a multiple drug interaction study in dog plasma for WR 238,605, mefloquine, chloroquine, quinine, doxycycline, and halofantrine with additional work on development and validation of LC/MS/MS methods for halofantrine (and its metabolite), WR 238,605) in terms of method development, validation, and characterization. We worked on demonstrating sensitivity, specificity, linearity, lack of interferences, accuracy, and reproducibility of the analytical method, describing the extent of recovery for the method, and reporting on the stability of compounds of interest in specimens during storage and drug analysis to provide documentation in support of Investigational New Drug (IND) submissions to the Food and Drug Administration (FDA).			
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TITLE: Analysis of Investigational Drugs in Biological Fluids-
Method Development and Routine Assay

PRINCIPAL INVESTIGATOR: Emil T. Lin, Ph.D.

CONTRACTING ORGANIZATION: University of California,
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ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 1 WR 171,669 Halofantrine			Subject 2 WR 171,669 Halofantrine		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	32.3	*	0.00	44.0	*
0.50	33.8	5.40	0.50	46.7	*
1.00	33.4	72.5	1.00	87.8	2.47
2.00	34.3	497.	2.00	262.	519.
3.00	55.1	801.	3.00	288.	1760.
4.00	61.0	1160.	4.00	261.	3560.
5.00	61.9	419.	5.00	260.	2780.
6.00	75.9	671.	6.00	240.	2070.
6.50	78.3	1150.	6.50	220.	2060.
7.00	106.	1270.	7.00	241.	1650.
8.00	146.	2020.	8.00	291.	2330.
9.00	208.	1960.	9.00	370.	2900.
10.00	245.	1470.	10.00	419.	2980.
11.00	250.	1480.	11.00	404.	2840.
12.00	229.	1490.	12.00	406.	3070.
12.50	234.	1660.	12.50	348.	2670.
13.00	241.	1530.	13.00	354.	2350.
14.00	347.	1720.	14.00	407.	2320.
15.00	369.	1720.	15.00	389.	3050.
16.00	374.	1560.	16.00	384.	2990.
20.00	497.	854.	20.00	479.	1820.
24.00	260.	637.	24.00	358.	1580.
48.00	164.	248.	48.00	251.	689.
72.00	160.	537.	72.00	200.	602.
120.00	182.	259.	120.00	188.	578.
144.00	174.	257.	144.00	199.	644.
148.00	386.	733.	148.00	405.	2440.
152.00	386.	644.	152.00	351.	1630.
156.00	266.	456.	156.00	321.	1320.
168.00	168.	258.	168.00	187.	612.
172.00	145.	251.	172.00	220.	616.
176.00	157.	255.	176.00	248.	651.
192.00	118.	230.	192.00	149.	411.
219.00	83.1	98.8	219.00	112.	301.
267.00	65.2	86.2	267.00	81.3	203.
363.00	50.8	64.3	363.00	30.8	88.4.
435.00	49.0	67.3	435.00	25.8	63.7
507.00	44.3	61.0	507.00	24.5	70.9

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS

HAL/P 93-2

Halofantrine in Plasma

Subject 3 WR 171,669 Halofantrine			Subject 4 WR 171,669 Halofantrine		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	6.72	0.00	*	NS
0.50	8.40	8.47	0.50	*	NS
1.00	42.8	48.5	1.00	7.32	NS
2.00	84.4	543.	2.00	66.2	NS
3.00	103.	1920.	3.00	118.	NS
4.00	107.	2350.	4.00	133.	NS
5.00	82.9	2700.	5.00	106.	NS
6.00	81.5	2060.	6.00	101.	NS
6.50	83.4	3040.	6.50	92.6	NS
7.00	83.7	3330.	7.00	103.	NS
8.00	92.1	4750.	8.00	101.	NS
9.00	117.	4670.	9.00	131.	NS
10.00	130.	4680.	10.00	225.	NS
11.00	130.	3120.	11.00	332.	NS
12.00	117.	2210.	12.00	355.	NS
12.50	132.	2620.	12.50	396.	NS
13.00	128.	2230.	13.00	549.	NS
14.00	139.	2610.	14.00	807.	NS
15.00	126.	3310.	15.00	700.	NS
16.00	285.	3550.	16.00	668.	NS
20.00	177.	2780.	20.00	686.	NS
24.00	134.	1580.	24.00	423.	NS
48.00	187.	525.	48.00	322.	NS
72.00	143.	459.	72.00	157.	NS
120.00	92.4	444.	120.00	139.	NS
144.00	71.1	435.	144.00	151.	NS
148.00	188.	2290.	148.00	385.	NS
152.00	208.	1300.	152.00	398.	NS
156.00	211.	1210.	156.00	359.	NS
168.00	94.9	430.	168.00	141.	NS
172.00	110.	419.	172.00	144.	NS
176.00	BC	752.	176.00	161.	NS
192.00	52.4	240.	192.00	86.7	NS
219.00	38.9	164.	219.00	61.3	NS
267.00	18.5	107.	267.00	33.2	NS
363.00	12.8	73.0	363.00	NS	NS
435.00	11.5	60.2	435.00	NS	NS
507.00	14.4	48.2	507.00	NS	NS

* = Below assay sensitivity; NS = No sample;
 BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 5 WR 171,669 Halofantrine			Subject 6 WR 171,669 Halofantrine		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	29.1	0.00	40.8	*
0.50	*	28.2	0.50	48.7	*
1.00	8.48	58.6	1.00	73.4	20.9
2.00	102.	721.	2.00	643.	1230.
3.00	164.	1020.	3.00	858.	2290.
4.00	242.	1670.	4.00	1080.	2280.
5.00	236.	1050.	5.00	833.	1740.
6.00	194.	829.	6.00	506.	1570.
6.50	241.	590.	6.50	831.	2090.
7.00	210.	508.	7.00	866.	2400.
8.00	246.	797.	8.00	962.	3950.
9.00	268.	1370.	9.00	759.	2860.
10.00	285.	1710.	10.00	877.	2340.
11.00	289.	2110.	11.00	977.	2180.
12.00	313.	1800.	12.00	778.	2140.
12.50	303.	1660.	12.50	759.	2030.
13.00	292.	1850.	13.00	907.	2150.
14.00	348.	1220.	14.00	833.	3680.
15.00	667.	1380.	15.00	1200.	2920.
16.00	1190.	1490.	16.00	1740.	2590.
20.00	1610.	2260.	20.00	1910.	1520.
24.00	759.	1160.	24.00	1180.	985.
48.00	452.	516.	48.00	387.	393.
72.00	329.	444.	72.00	241.	417.
120.00	301.	456.	120.00	251.	410.
144.00	247.	558.	144.00	211.	467.
148.00	577.	1700.	148.00	257.	2470.
152.00	935.	397.	152.00	332.	1410.
156.00	638.	808.	156.00	320.	1340.
168.00	325.	462.	168.00	163.	473.
172.00	308.	506.	172.00	273.	470.
176.00	296.	436.	176.00	253.	541.
192.00	211.	344.	192.00	147.	315.
219.00	161.	261.	219.00	126.	253.
267.00	94.1	114.	267.00	110.	163.
363.00	56.3	84.6	363.00	46.4	106.
435.00	42.6	89.5	435.00	36.2	91.9
507.00	58.9	92.2	507.00	37.2	103.

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 7 WR 171,669 Halofantrine			Subject 8 WR 171,669 Halofantrine		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	15.0	0.00	*	8.82
0.50	3.90	44.9	0.50	*	9.76
1.00	16.7	400.	1.00	1.65	19.5
2.00	58.9	1220.	2.00	9.91	414.
3.00	70.9	1420.	3.00	25.9	1510.
4.00	105.	1340.	4.00	53.0	2090.
5.00	91.8	962.	5.00	57.1	2740.
6.00	98.4	847.	6.00	70.0	1390.
6.50	81.5	836.	6.50	80.7	1840.
7.00	116.	1510.	7.00	206.	1860.
8.00	139.	2570.	8.00	78.1	1280.
9.00	146.	1860.	9.00	84.2	1790.
10.00	169.	1830.	10.00	98.9	2370.
11.00	170.	1270.	11.00	104.	2150.
12.00	168.	1230.	12.00	80.3	1550.
12.50	167.	1100.	12.50	127.	2150.
13.00	141.	1200.	13.00	121.	2350.
14.00	153.	1570.	14.00	89.6	1530.
15.00	178.	2050.	15.00	116.	1730.
16.00	193.	2340.	16.00	85.8	1970.
20.00	197.	1360.	20.00	730.	1510.
24.00	176.	823.	24.00	605.	887.
48.00	169.	393.	48.00	224.	416.
72.00	120.	314.	72.00	68.6	341.
120.00	192.	316.	120.00	90.8	339.
144.00	169.	387.	144.00	88.9	337.
148.00	269.	1110.	148.00	152.	1630.
152.00	394.	1440.	152.00	216.	791.
156.00	361.	1030.	156.00	190.	726.
168.00	139.	324.	168.00	89.4	316.
172.00	167.	445.	172.00	91.9	353.
176.00	154.	371.	176.00	89.7	321.
192.00	79.5	236.	192.00	65.4	215.
219.00	44.6	120.	219.00	47.6	162.
267.00	31.5	121.	267.00	27.7	89.9
363.00	19.1	47.0	363.00	16.2	62.4
435.00	19.5	40.9	435.00	19.0	63.7
507.00	15.5	NS	507.00	15.9	58.5

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 9 WR 171,669 Halofantrine

Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	30.6	*
0.50	41.1	12.8
1.00	96.4	205.
2.00	134.	1580.
3.00	181.	1240.
4.00	156.	858.
5.00	155.	637.
6.00	167.	832.
6.50	143.	1000.
7.00	157.	813.
8.00	194.	1180.
9.00	243.	1430.
10.00	276.	1080.
11.00	203.	1500.
12.00	191.	1520.
12.50	201.	1300.
13.00	203.	1250.
14.00	193.	1140.
15.00	194.	2490.
16.00	170.	2460.
20.00	265.	880.
24.00	270.	564.
48.00	370.	360.
72.00	358.	360.
120.00	235.	395.
144.00	340.	953.
148.00	350.	2630.
152.00	502.	1520.
156.00	492.	1380.
168.00	236.	382.
172.00	188.	357.
176.00	219.	408.
192.00	141.	307.
219.00	94.2	250.
267.00	99.4	171.
363.00	41.8	52.8
435.00	39.6	38.5
507.00	38.8	29.0

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS

HAL/P 93-2

Halofantrine in Plasma

Subject 1 WR 178,460			Subject 2 WR 178,460		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	26.9	*	0.00	17.8	*
0.50	24.6	*	0.50	17.1	*
1.00	23.3	2.00	1.00	21.3	*
2.00	22.6	13.7	2.00	43.4	6.59
3.00	26.8	27.2	3.00	50.5	27.4
4.00	31.5	34.4	4.00	65.1	50.1
5.00	33.2	21.1	5.00	75.4	57.6
6.00	40.7	25.4	6.00	82.8	71.3
6.50	36.9	76.3	6.50	73.1	94.5
7.00	48.0	82.8	7.00	95.3	117.
8.00	54.9	84.3	8.00	96.6	139.
9.00	63.4	122.	9.00	129.	193.
10.00	69.9	121.	10.00	141.	212.
11.00	82.2	138.	11.00	133.	225.
12.00	85.9	429.	12.00	147.	233.
12.50	85.2	149.	12.50	129.	214.
13.00	86.4	158.	13.00	136.	221.
14.00	97.1	196.	14.00	136.	283.
15.00	98.0	208.	15.00	147.	319.
16.00	108.	227.	16.00	153.	326.
20.00	158.	212.	20.00	204.	397.
24.00	166.	181.	24.00	203.	491.
48.00	180.	238.	48.00	286.	521.
72.00	169.	216.	72.00	314.	596.
120.00	198.	287.	120.00	359.	676.
144.00	226.	310.	144.00	390.	679.
148.00	262.	311.	148.00	451.	544.
152.00	264.	372.	152.00	493.	751.
156.00	252.	386.	156.00	466.	716.
168.00	268.	295.	168.00	413.	721.
172.00	250.	324.	172.00	459.	715.
176.00	266.	297.	176.00	411.	642.
192.00	242.	311.	192.00	376.	614.
219.00	162.	259.	219.00	342.	225.
267.00	113.	216.	267.00	227.	175.
363.00	106.	152.	363.00	82.3	57.3
435.00	71.9	113.	435.00	52.4	44.1
507.00	65.4	88.4	507.00	40.8	34.6

* = Below assay sensitivity; NS = No sample;

BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 3 WR 178,460			Subject 4 WR 178,460		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	6.68	0.00	*	NS
0.50	*	5.55	0.50	*	NS
1.00	3.55	7.05	1.00	*	NS
2.00	13.7	16.8	2.00	*	NS
3.00	25.2	36.1	3.00	25.3	NS
4.00	34.4	62.1	4.00	35.2	NS
5.00	35.8	80.3	5.00	36.5	NS
6.00	43.9	97.1	6.00	43.6	NS
6.50	60.3	119.	6.50	46.4	NS
7.00	37.0	144.	7.00	40.3	NS
8.00	51.7	174.	8.00	47.2	NS
9.00	56.9	215.	9.00	58.5	NS
10.00	71.4	244.	10.00	76.3	NS
11.00	55.0	273.	11.00	104.	NS
12.00	71.0	274.	12.00	122.	NS
12.50	80.8	290.	12.50	215.	NS
13.00	81.6	319.	13.00	122.	NS
14.00	86.3	336.	14.00	151.	NS
15.00	85.6	356.	15.00	150.	NS
16.00	87.0	378.	16.00	154.	NS
20.00	119.	430.	20.00	178.	NS
24.00	118.	500.	24.00	183.	NS
48.00	224.	557.	48.00	313.	NS
72.00	296.	654.	72.00	313.	NS
120.00	262.	674.	120.00	290.	NS
144.00	269.	796.	144.00	328.	NS
148.00	288.	900.	148.00	416.	NS
152.00	381.	986.	152.00	401.	NS
156.00	328.	896.	156.00	366.	NS
168.00	286.	862.	168.00	367.	NS
172.00	368.	854.	172.00	402.	NS
176.00	308.	936.	176.00	358.	NS
192.00	253.	725.	192.00	298.	NS
219.00	230.	621.	219.00	268.	NS
267.00	160.	357.	267.00	156.	NS
363.00	73.0	163.	363.00	NS	NS
435.00	51.9	117.	435.00	NS	NS
507.00	33.3	101.	507.00	NS	NS

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS

HAL/P 93-2

Halofantrine in Plasma

Subject 5 WR 178,460			Subject 6 WR 178,460		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	16.9	0.00	19.5	*
0.50	*	16.6	0.50	22.1	*
1.00	*	18.3	1.00	22.7	*
2.00	*	33.2	2.00	49.8	17.0
3.00	11.5	52.9	3.00	73.3	56.5
4.00	21.1	79.3	4.00	88.3	80.9
5.00	31.3	84.7	5.00	87.1	92.9
6.00	38.6	121.	6.00	82.2	112.
6.50	55.7	123.	6.50	137.	129.
7.00	55.5	117.	7.00	178.	158.
8.00	58.3	139.	8.00	195.	217.
9.00	58.3	182.	9.00	197.	234.
10.00	101.	171.	10.00	246.	253.
11.00	117.	233.	11.00	229.	263.
12.00	135.	222.	12.00	216.	283.
12.50	140.	246.	12.50	208.	283.
13.00	135.	258.	13.00	216.	290.
14.00	144.	229.	14.00	134.	285.
15.00	182.	277.	15.00	128.	359.
16.00	172.	297.	16.00	250.	363.
20.00	299.	350.	20.00	381.	387.
24.00	792.	535.	24.00	436.	389.
48.00	402.	589.	48.00	521.	350.
72.00	488.	733.	72.00	469.	452.
120.00	486.	739.	120.00	566.	441.
144.00	475.	769.	144.00	474.	452.
148.00	494.	922.	148.00	464.	525.
152.00	608.	368.	152.00	480.	533.
156.00	556.	851.	156.00	505.	626.
168.00	534.	749.	168.00	354.	568.
172.00	548.	883.	172.00	449.	537.
176.00	541.	792.	176.00	428.	496.
192.00	462.	791.	192.00	327.	457.
219.00	440.	635.	219.00	315.	368.
267.00	350.	538.	267.00	263.	311.
363.00	116.	137.	363.00	65.4	151.
435.00	88.8	96.4	435.00	53.9	106.
507.00	72.2	78.4	507.00	36.1	73.0

* = Below assay sensitivity; NS = No sample;
 BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 7 WR 178,460			Subject 8 WR 178,460		
Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)	Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	*	10.5	0.00	*	5.65
0.50	*	10.2	0.50	*	6.03
1.00	*	23.8	1.00	*	9.38
2.00	6.57	59.6	2.00	*	14.9
3.00	17.2	105.	3.00	*	39.9
4.00	25.1	114.	4.00	12.6	65.4
5.00	29.0	120.	5.00	18.8	98.4
6.00	34.8	151.	6.00	22.4	98.3
6.50	38.3	162.	6.50	29.6	110.
7.00	43.5	182.	7.00	280.	118.
8.00	52.4	239.	8.00	38.6	153.
9.00	62.6	252.	9.00	46.8	180.
10.00	72.3	252.	10.00	52.3	224.
11.00	77.9	235.	11.00	70.4	220.
12.00	87.8	226.	12.00	66.3	246.
12.50	92.8	250.	12.50	61.1	228.
13.00	93.1	253.	13.00	71.9	255.
14.00	112.	259.	14.00	71.4	292.
15.00	107.	299.	15.00	79.9	341.
16.00	130.	301.	16.00	72.3	320.
20.00	161.	282.	20.00	126.	347.
24.00	146.	344.	24.00	132.	430.
48.00	175.	446.	48.00	225.	598.
72.00	217.	465.	72.00	234.	549.
120.00	283.	506.	120.00	322.	596.
144.00	318.	635.	144.00	307.	620.
148.00	365.	572.	148.00	342.	737.
152.00	472.	705.	152.00	415.	700.
156.00	480.	668.	156.00	359.	673.
168.00	390.	202.	168.00	378.	620.
172.00	459.	280.	172.00	380.	677.
176.00	432.	230.	176.00	349.	638.
192.00	317.	149.	192.00	286.	539.
219.00	306.	80.4	219.00	259.	562.
267.00	217.	81.0	267.00	193.	424.
363.00	106.	29.6	363.00	113.	167.
435.00	66.5	25.7	435.00	75.5	143.
507.00	50.8	NS	507.00	60.1	138.

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL RESULTS
HAL/P 93-2
Halofantrine in Plasma

Subject 9 WR 178,460

Scheduled Time (hrs.)	Treat A Conc. (ng/ml)	Treat B Conc. (ng/ml)
0.00	44.5	*
0.50	44.0	*
1.00	52.8	5.52
2.00	59.1	31.0
3.00	58.1	46.8
4.00	70.6	66.0
5.00	93.7	70.8
6.00	105.	73.3
6.50	98.5	97.7
7.00	92.7	84.0
8.00	BC	108.
9.00	117.	139.
10.00	131.	148.
11.00	140.	183.
12.00	144.	202.
12.50	108.	202.
13.00	138.	224.
14.00	146.	239.
15.00	142.	330.
16.00	146.	324.
20.00	196.	308.
24.00	187.	366.
48.00	281.	460.
72.00	413.	500.
120.00	353.	605.
144.00	492.	607.
148.00	527.	739.
152.00	544.	705.
156.00	456.	807.
168.00	411.	638.
172.00	415.	674.
176.00	457.	636.
192.00	369.	572.
219.00	350.	521.
267.00	464.	456.
363.00	233.	189.
435.00	142.	121.
507.00	94.9	107.

* = Below assay sensitivity; NS = No sample;
BC = Unacceptable chromatogram, insufficient sample to repeat.

ANALYTICAL DATA
Analysis Report WR5/P 93-5
WR 238,605 Free Base in Rat Plasma

0 mg/kg/day

Sample Identification	Concentration (ng/ml)
803-13	*
804-13	*
805-13	*
808-13	*
812-13	*
813-13	*
817-13	*
818-13	*
819-13	*
820-13	*
821-13	*
822-13	2.25
825-13	1.68
826-13	*
828-13	*
829-13	*
832-13	*
833-13	*
838-13	*
839-13	2.33

0 mg/kg/day

Sample Identification	Concentration (ng/ml)
801-27	*
802-27	*
806-27	*
807-27	*
809-27	*
810-27	*
811-27	*
814-27	*
815-27	*
816-27	*
823-27	*
824-27	*
827-27	*
830-27	*
831-27	*
834-27	*
835-27	*
836-27	*
837-27	*
840-27	*

0.5 mg/kg/day

Sample Identification	Concentration (ng/ml)
841-13	17.2
842-13	28.2
843-13	25.4
845-13	20.4
847-13	30.6
849-13	23.9
854-13	22.3
855-13	34.3
856-13	32.7
857-13	26.4
862-13	25.6
863-13	27.1
865-13	25.9
866-13	45.1
869-13	45.3
870-13	26.3
872-13	42.7
875-13	37.6
876-13	28.3
878-13	56.1

In the sample identification number, the 13 and 27 after the sample number refers to blood drawn at 13 and 27 weeks, respectively.

* = Below Assay Sensitivity

ANALYTICAL DATA
Analysis Report WR5/P 93-5
WR 238,605 Free Base in Rat Plasma

0.5 mg/kg/day

Sample Identification	Concentration (ng/ml)
844-27	*
846-27	*
848-27	*
850-27	*
851-27	*
852-27	*
853-27	*
858-27	*
859-27	*
860-27	*
861-27	*
864-27	*
867-27	*
868-27	*
871-27	*
873-27	*
874-27	*
877-27	*
879-27	*
880-27	*

6.0 mg/kg/day

Sample Identification	Concentration (ng/ml)
884-27	*
887-27	*
889-27	*
890-27	*
893-27	*
895-27	*
896-27	*
897-27	*
899-27	*
900-27	*
901-27	*
902-27	*
904-27	*
908-27	*
909-27	*
912-27	*
915-27	*
916-27	*
918-27	*
919-27	*

Sample Identification	Concentration (ng/ml)
881-13	303
882-13	624
883-13	439
885-13	466
886-13	328
888-13	268
891-13	326
892-13	609
894-13	460
898-13	237
903-13	557
905-13	518
906-13	459
907-13	639
910-13	697
911-13	661
913-13	555
914-13	422
917-13	537
920-13	662

In the sample identification number, the 13 and 27 after the sample number refers to blood drawn at 13 and 27 weeks, respectively.
 * = Below Assay Sensitivity

ANALYTICAL DATA
Analysis Report WR5/P 93-5
WR 238,605 Free Base in Rat Plasma
18 mg/kg/day

18 mg/kg/day

Sample Identification	Concentration (ng/ml)
924-13	1700
925-13	1940
928-13	1260
931-13	1470
938-13	1910
943-13	1470
945-13	1850
946-13	1950
947-13	1600
948-13	2580
950-13	1140
951-13	1330
952-13	1550
955-13	2140
958-13	1660
922-27	*
923-27	*
927-27	*
929-27	*
930-27	*

Sample Identification	Concentration (ng/ml)
932-27	*
933-27	*
935-27	*
939-27	*
940-27	*
941-27	*
942-27	2.06
944-27	1.18
949-27	*
953-27	*
954-27	1.15
957-27	*
959-27	1.67
960-27	*

In the sample identification number, the 13 and 27 after the sample number refers to blood drawn at 13 and 27 weeks, respectively.
 * = Below Assay Sensitivity

ANALYTICAL RESULTS
 Primaquine Free Base and its Carboxy Metabolite
 in Human Serum
 Pri/P 93-6
 Clinical Sample Date: Week 6

Sample ID	Primaquine Free Base (ng/ml)	Carboxy Metabolite (ng/ml)
93A-003	*	315
93A-010	*	420
93A-017	*	946
93A-023	*	571
93A-024	*	241
93A-032	*	431
93A-041	*	377
93A-043	*	327
93A-051	*	543
93A-057	*	587
93A-064	*	51.2
93A-069	NS	NS
93A-074	*	490
93A-083	*	1100
93A-092	47.9	224
93A-102	*	62.4
93A-117	*	638
93A-123	*	535
93A-126	*	492
93A-132	*	388
93A-145	40.4	1180
93A-156	53.4	691
93A-162	*	652
93A-168	*	215
93A-177	*	1180
93A-189	*	446
93A-196	*	307
93A-205	*	494
93A-208	*	580
93A-213	46.6	756
93A-218	*	501
93A-221	*	323

* = below assay sensitivity; NS = no sample.

ANALYTICAL RESULTS
Primaquine Free Base and its Carboxy Metabolite
in Human Serum

Pri/P 93-6

Clinical Sample Date: Week 11

Sample ID	Primaquine free base (ng/ml)	Carboxy Metabolite (ng/ml)
93A-003	*	356
93A-010	*	*
93A-017	*	693
93A-023	*	570
93A-024	*	138
93A-032	*	452
93A-041	*	373
93A-043	*	250
93A-051	*	434
93A-057	*	312
93A-064	42.5	*
93A-069	NS	NS
93A-074	*	555
93A-083	*	59.5
93A-092	*	254
93A-102	*	296
93A-117	*	481
93A-123	*	54.6
93A-126	37.3	1130
93A-132	*	402
93A-145	45.5	804
93A-156	40.2	752
93A-162	29.5	93.0
93A-168	*	377
93A-177	*	793
93A-189	NS	NS
93A-196	*	235
93A-205	*	561
93A-208	NS	NS
93A-213	*	*
93A-218	*	501
93A-221	170	328

* = below assay sensitivity; NS = no sample.

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

SUBJ #

1 CL-HAL

2 CL-HAL

3 CL-HAL

4 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	20.3
P2	NS
P3	6.94
P4	4.00
P5	2.00
P6	1.07
P7	0.735
P8	0.595
P9	0.424
P10	0.316
P11	0.361
P12	
P13	
P14	
P15	

Time Period	(µg/ml) CONC
P0	*
P1	39.9
P2	39.0
P3	37.7
P4	35.9
P5	36.1
P6	34.9
P7	35.3
P8	31.7
P9	32.8
P10	31.9
P11	27.9
P12	
P13	
P14	
P15	

Time Period	(µg/ml) CONC
P0	*
P1	23.0
P2	13.7
P3	7.67
P4	5.44
P5	4.14
P6	1.82
P7	1.19
P8	0.947
P9	0.862
P10	0.740
P11	0.601
P12	
P13	
P14	
P15	

Time Period	(µg/ml) CONC
P0	*
P1	27.6
P2	15.3
P3	8.60
P4	5.07
P5	2.54
P6	1.40
P7	1.06
P8	0.841
P9	0.802
P10	0.807
P11	0.757
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

5 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	28.3
P2	21.9
P3	11.7
P4	6.92
P5	5.45
P6	1.85
P7	1.18
P8	0.975
P9	0.757
P10	0.785
P11	0.729
P12	
P13	
P14	
P15	

6 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	18.7
P2	11.8
P3	6.59
P4	3.72
P5	2.20
P6	1.09
P7	0.696
P8	0.550
P9	0.545
P10	0.342
P11	0.340
P12	
P13	
P14	
P15	

7 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	17.7
P2	9.88
P3	5.15
P4	2.17
P5	1.1
P6	0.229
P7	0.0849
P8	0.0303
P9	0.0308
P10	0.0683
P11	0.0129
P12	
P13	
P14	
P15	

8 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	22.3
P2	14.4
P3	8.06
P4	4.35
P5	3.01
P6	1.76
P7	0.870
P8	0.392
P9	0.251
P10	0.155
P11	0.135
P12	0.119
P13	0.113
P14	0.106
P15	0.137

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

9 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	20.6
P2	12.0
P3	4.15
P4	1.68
P5	0.688
P6	0.158
P7	0.0708
P8	0.0668
P9	0.0653
P10	0.0576
P11	0.0624
P12	0.0691
P13	0.105
P14	0.160
P15	0.174

10 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	23.6
P2	16.5
P3	9.85
P4	5.43
P5	2.45
P6	0.728
P7	0.522
P8	0.243
P9	0.159
P10	0.217
P11	0.155
P12	
P13	
P14	
P15	

11 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	25.9
P2	15.9
P3	7.24
P4	3.64
P5	1.92
P6	0.898
P7	0.528
P8	0.301
P9	0.579
P10	0.545
P11	0.295
P12	0.545
P13	0.562
P14	0.247
P15	0.561

12 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	20.6
P2	12.5
P3	6.09
P4	3.23
P5	1.82
P6	0.928
P7	0.754
P8	0.621
P9	0.650
P10	0.574
P11	0.534
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

13	CL-HAL
----	--------

Time Period	(µg/ml) CONC
P0	*
P1	28.6
P2	15.7
P3	8.03
P4	4.54
P5	2.87
P6	1.41
P7	1.13
P8	0.853
P9	0.708
P10	0.908
P11	0.847
P12	
P13	
P14	
P15	

14	CL-HAL
----	--------

Time Period	(µg/ml) CONC
P0	*
P1	23.1
P2	12.3
P3	5.88
P4	3.57
P5	2.03
P6	1.13
P7	1.43
P8	0.632
P9	0.528
P10	0.418
P11	0.174
P12	0.615
P13	0.271
P14	0.350
P15	0.651

15	CL-HAL
----	--------

Time Period	(µg/ml) CONC
P0	*
P1	24.2
P2	14.9
P3	8.58
P4	5.17
P5	3.02
P6	1.24
P7	0.783
P8	0.534
P9	0.557
P10	0.444
P11	0.594
P12	
P13	
P14	
P15	

16	CL-HAL
----	--------

Time Period	(µg/ml) CONC
P0	*
P1	15.1
P2	6.57
P3	3.85
P4	2.40
P5	1.50
P6	0.893
P7	0.598
P8	0.339
P9	0.305
P10	0.292
P11	0.350
P12	0.318
P13	0.400
P14	0.395
P15	0.533

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

17 CL-HAL

Time Period	(µg/ml) CONC,
P0	*
P1	12.6
P2	4.94
P3	1.90
P4	1.21
P5	0.802
P6	0.581
P7	0.0724
P8	0.0643
P9	0.0390
P10	0.0613
P11	0.0542
P12	0.564
P13	0.581
P14	0.564
P15	0.547

18 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	28.6
P2	18.5
P3	10.2
P4	6.43
P5	3.91
P6	2.18
P7	1.91
P8	1.05
P9	0.913
P10	0.814
P11	0.808
P12	
P13	
P14	
P15	

19 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	12.1
P2	6.20
P3	3.32
P4	1.90
P5	1.36
P6	0.958
P7	0.630
P8	0.625
P9	0.619
P10	0.575
P11	0.675
P12	0.553
P13	0.647
P14	0.614
P15	0.608

20 CL-HAL

Time Period	(µg/ml) CONC
P0	*
P1	16.1
P2	11.2
P3	6.78
P4	4.05
P5	2.38
P6	1.09
P7	0.575
P8	0.109
P9	0.0687
P10	0.0596
P11	0.0709
P12	0.126
P13	0.161
P14	0.214
P15	0.196

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

1 CL-HM

Time Period	(µg/ml) CONC.
P0	*
P1	17.1
P2	10.3
P3	4.96
P4	2.53
P5	1.60
P6	0.791
P7	0.619
P8	0.547
P9	0.218
P10	0.166
P11	0.202
P12	
P13	
P14	
P15	

2 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	33.6
P2	24.4
P3	13.7
P4	9.04
P5	5.92
P6	2.85
P7	1.58
P8	1.08
P9	0.776
P10	0.641
P11	0.635
P12	
P13	
P14	
P15	

3 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	18.7
P2	11.6
P3	6.04
P4	3.04
P5	1.82
P6	0.946
P7	0.658
P8	0.167
P9	0.558
P10	0.541
P11	0.588
P12	
P13	
P14	
P15	

4 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	30.2
P2	19.2
P3	13.1
P4	6.83
P5	4.74
P6	3.13
P7	1.67
P8	1.40
P9	0.792
P10	0.789
P11	0.808
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

5 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	29.8
P2	17.4
P3	9.67
P4	6.27
P5	3.87
P6	1.89
P7	1.35
P8	0.976
P9	0.746
P10	0.670
P11	0.670
P12	
P13	
P14	
P15	

6 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	32.6
P2	21.7
P3	12.8
P4	7.52
P5	4.47
P6	2.10
P7	1.44
P8	1.09
P9	0.899
P10	0.887
P11	0.729
P12	
P13	
P14	
P15	

7 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	30.2
P2	21.3
P3	14.7
P4	7.92
P5	6.10
P6	2.67
P7	1.34
P8	1.12
P9	1.05
P10	0.823
P11	0.776
P12	
P13	
P14	
P15	

8 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	49.4
P2	28.4
P3	15.1
P4	9.05
P5	6.35
P6	3.37
P7	2.46
P8	2.03
P9	1.91
P10	1.74
P11	1.70
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

9 CL-HM

Time Period	(µg/ml) CONC,
P0	*
P1	14.7
P2	10.1
P3	5.74
P4	3.41
P5	2.26
P6	1.01
P7	0.680
P8	0.388
P9	0.474
P10	0.360
P11	0.336
P12	
P13	
P14	
P15	

10 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	36.5
P2	25.3
P3	16.3
P4	11.5
P5	8.26
P6	4.43
P7	2.75
P8	1.81
P9	1.23
P10	1.02
P11	0.881
P12	
P13	
P14	
P15	

11 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	19.8
P2	14.6
P3	8.73
P4	5.55
P5	3.68
P6	1.69
P7	1.08
P8	0.737
P9	0.630
P10	0.598
P11	0.577
P12	
P13	
P14	
P15	

12 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	41.4
P2	28.6
P3	15.8
P4	9.28
P5	6.10
P6	2.88
P7	1.66
P8	1.09
P9	0.921
P10	0.891
P11	0.978
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
Halofantrine as Free Base

13 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	18.6
P2	9.03
P3	4.06
P4	2.30
P5	1.62
P6	1.45
P7	1.12
P8	1.06
P9	1.18
P10	1.15
P11	1.21
P12	
P13	
P14	
P15	

14 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	39.7
P2	17.9
P3	9.74
P4	6.39
P5	4.62
P6	2.53
P7	1.97
P8	1.61
P9	1.38
P10	1.35
P11	1.46
P12	
P13	
P14	
P15	

15 CL-HM

Time Period	(µg/ml) CONC
P0	*
P1	23.6
P2	11.7
P3	4.90
P4	2.82
P5	1.87
P6	1.08
P7	0.951
P8	0.637
P9	0.599
P10	0.623
P11	0.744
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

SUBJ #

1 CL-HAL

Time Period	(ng/ml) CONC.
P0	*
P1	131
P2	NS
P3	74.4
P4	157
P5	61.4
P6	89.1
P7	102
P8	110
P9	124
P10	131
P11	145
P12	
P13	
P14	
P15	

2 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	255
P2	221
P3	234
P4	272
P5	186
P6	283
P7	185
P8	246
P9	182
P10	176
P11	190
P12	
P13	
P14	
P15	

3 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	156
P2	115
P3	89.9
P4	181
P5	176
P6	174
P7	163
P8	186
P9	NS(*ppt)
P10	183
P11	NS(*ppt)
P12	
P13	
P14	
P15	

4 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	131
P2	99.8
P3	82.1
P4	84.7
P5	108
P6	133
P7	150
P8	184
P9	205
P10	214
P11	242
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

SUBJ # 8 CL-HAL

5 CL-HAL

Time Period	(ng/ml) CONC,
P0	*
P1	NS(*ppt)
P2	174
P3	143
P4	179
P5	189
P6	204
P7	174
P8	157
P9	152
P10	152
P11	162
P12	
P13	
P14	
P15	

6 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	131
P2	121
P3	208
P4	335
P5	257
P6	168
P7	144
P8	146
P9	154
P10	168
P11	186
P12	
P13	
P14	
P15	

7 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	842
P2	737
P3	631
P4	432
P5	254
P6	103
P7	57.9
P8	30.6
P9	35.8
P10	44.9
P11	42.0
P12	
P13	
P14	
P15	

SUBJ # 8 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	107
P2	123
P3	228
P4	281
P5	193
P6	217
P7	129
P8	120
P9	115
P10	108
P11	106
P12	92.8
P13	104
P14	109
P15	120

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

9 CL-HAL

Time Period	(ng/ml) CONC ,
P0	*
P1	124
P2	135
P3	581
P4	353
P5	203
P6	105
P7	70.6
P8	70.4
P9	77.9
P10	76.9
P11	81.1
P12	86.1
P13	110
P14	133
P15	141

10 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	114
P2	120
P3	99.6
P4	125
P5	420
P6	227
P7	191
P8	145
P9	121
P10	155
P11	143
P12	
P13	
P14	
P15	

11 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	137
P2	109
P3	129
P4	186
P5	246
P6	216
P7	199
P8	200
P9	195
P10	199
P11	218
P12	212
P13	237
P14	251
P15	298

12 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	111
P2	94.2
P3	57.6
P4	84.9
P5	125
P6	163
P7	186
P8	210
P9	258
P10	248
P11	263
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

13 CL-HAL

Time Period	(ng/ml) CONC,
P0	*
P1	136
P2	98.9
P3	61.2
P4	54.7
P5	54.9
P6	96.1
P7	160
P8	144
P9	149
P10	141
P11	156
P12	
P13	
P14	
P15	

14 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	129
P2	110
P3	80.1
P4	77.2
P5	110
P6	122
P7	149
P8	168
P9	192
P10	195
P11	159
P12	167
P13	192
P14	225
P15	249

15 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	138
P2	124
P3	104
P4	95.3
P5	85.1
P6	93.0
P7	92.8
P8	86.6
P9	91.4
P10	117
P11	71.8
P12	
P13	
P14	
P15	

16 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	86.6
P2	703
P3	377
P4	301
P5	232
P6	164
P7	150
P8	135
P9	151
P10	147
P11	182
P12	176
P13	195
P14	200
P15	252

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

17 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	219
P2	502
P3	323
P4	194
P5	144
P6	101
P7	119
P8	47.7
P9	47.5
P10	67.9
P11	66.7
P12	117
P13	171
P14	175
P15	202

18 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	229
P2	161
P3	124
P4	209
P5	256
P6	283
P7	228
P8	217
P9	243
P10	250
P11	272
P12	
P13	
P14	
P15	

19 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	178
P2	362
P3	282
P4	225
P5	202
P6	158
P7	147
P8	152
P9	177
P10	191
P11	227
P12	242
P13	277
P14	312
P15	337

20 CL-HAL

Time Period	(ng/ml) CONC
P0	*
P1	113
P2	99.7
P3	115
P4	434
P5	376
P6	218
P7	164
P8	146
P9	126
P10	136
P11	182
P12	247
P13	308
P14	408
P15	449

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

1 CL-HM

Time Period	(ng/ml) CONC,
P0	*
P1	191
P2	89.2
P3	133
P4	202
P5	160
P6	102
P7	94.5
P8	80.0
P9	82.9
P10	75.2
P11	85.7
P12	
P13	
P14	
P15	

2 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	190
P2	142
P3	112
P4	112
P5	234
P6	278
P7	166
P8	166
P9	154
P10	136
P11	137
P12	
P13	
P14	
P15	

3 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	171
P2	188
P3	310
P4	351
P5	276
P6	165
P7	170
P8	137
P9	186
P10	141
P11	170
P12	
P13	
P14	
P15	

4 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	267
P2	133
P3	189
P4	136
P5	113
P6	101
P7	108
P8	88.1
P9	114
P10	88.3
P11	105
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

5 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	280
P2	194
P3	102
P4	70.6
P5	65.8
P6	64.4
P7	62.5
P8	76.7
P9	73.6
P10	78.4
P11	70.0
P12	
P13	
P14	
P15	

6 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	532
P2	366
P3	190
P4	495
P5	511
P6	370
P7	274
P8	241
P9	198
P10	179
P11	176
P12	
P13	
P14	
P15	

7 CL-HM

Time Period	(ng/ml) CONC
P0	14.8
P1	243
P2	209
P3	336
P4	122
P5	100
P6	148
P7	196
P8	149
P9	158
P10	142
P11	120
P12	
P13	
P14	
P15	

8 CL-HM

Time Period	(ng/ml) CONC
P0	22.6
P1	573
P2	193
P3	139
P4	116
P5	121
P6	213
P7	158
P8	172
P9	184
P10	372
P11	188
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

9 CL-HM

Time Period	(ng/ml) CONC
P0	15.3
P1	134
P2	99.6
P3	60.6
P4	59.6
P5	62.9
P6	109
P7	75.9
P8	70.2
P9	94.8
P10	59.6
P11	48.8
P12	
P13	
P14	
P15	

10 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	666
P2	278
P3	195
P4	214
P5	136
P6	185
P7	189
P8	202
P9	190
P10	193
P11	154
P12	
P13	
P14	
P15	

11 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	211
P2	153
P3	183
P4	134
P5	199
P6	106
P7	98.2
P8	64.3
P9	60.5
P10	63.6
P11	57.9
P12	
P13	
P14	
P15	

12 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	378
P2	183
P3	126
P4	100
P5	130
P6	92.1
P7	88.1
P8	88.1
P9	92.5
P10	93.4
P11	104
P12	
P13	
P14	
P15	

Final Perfusate Results (9/23/94)
Hal/bpl 93-7
WR 178,460 as Free Base

13 CL-HM

Time Period	(ng/ml) CONC,
P0	*
P1	122
P2	70.2
P3	355
P4	275
P5	200
P6	123
P7	167
P8	190
P9	187
P10	207
P11	204
P12	
P13	
P14	
P15	

14 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	188
P2	138
P3	94.2
P4	163
P5	116
P6	143
P7	167
P8	231
P9	198
P10	177
P11	159
P12	
P13	
P14	
P15	

15 CL-HM

Time Period	(ng/ml) CONC
P0	*
P1	124
P2	88.7
P3	72.1
P4	75.6
P5	103
P6	84.7
P7	108
P8	126
P9	92.7
P10	102
P11	87.5
P12	
P13	
P14	
P15	

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

SUBJ #

1 CL-HAL

2 CL-HAL

3 CL-HAL

4 CL-HAL

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	1080
P7	509
P8	438
P9	424
P10	316
P11	361
P12	
P13	
P14	
P15	

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	969
P8	688
P9	NS
P10	639
P11	NS
P12	
P13	
P14	
P15	

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	1020
P8	750
P9	717
P10	655
P11	651
P12	
P13	
P14	
P15	

* = below assay sensitivity

Halofantrine as Free Base

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

9	CL-HAL	10	CL-HAL	11	CL-HAL	12	CL-HAL
	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0	*	P0	*	P0	*	P0	*
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5	583	P5		P5		P5	
P6	158	P6	611	P6	687	P6	844
P7	70.8	P7	387	P7	362	P7	625
P8	66.8	P8	243	P8	301	P8	505
P9	65.3	P9	159	P9	234	P9	537
P10	57.6	P10	217	P10	214	P10	486
P11	62.4	P11	155	P11	295	P11	440
P12	69.1	P12		P12	243	P12	
P13	105	P13		P13	264	P13	
P14	160	P14		P14	247	P14	
P15	174	P15		P15	340	P15	

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

13	CL-HAL	14	CL-HAL	15	CL-HAL	16	CL-HAL
(hrs) Time	(ng/ml) CONC ,	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0	*	P0	*	P0	*	P0	*
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5		P5		P5		P5	1320
P6		P6	1070	P6		P6	748
P7	838	P7	722	P7	756	P7	470
P8	740	P8	564	P8	476	P8	339
P9	491	P9	494	P9	439	P9	305
P10	700	P10	418	P10	444	P10	292
P11	765	P11	174	P11	323	P11	350
P12		P12	393	P12		P12	318
P13		P13	271	P13		P13	400
P14		P14	350	P14		P14	395
P15		P15	539	P15		P15	533

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

17	CL-HAL	18	CL-HAL	19	CL-HAL	20	CL-HAL
	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0		P0	*	P0	*	P0	*
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5		P5		P5		P5	
P6		P6		P6		P6	
P7		P7		P7		P7	
P8		P8		P8		P8	
P9		P9		P9		P9	
P10		P10		P10		P10	
P11		P11		P11		P11	
P12		P12		P12		P12	
P13		P13		P13		P13	
P14		P14		P14		P14	
P15		P15		P15		P15	

	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0		P0		P0		P0	
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5		P5		P5		P5	
P6		P6		P6		P6	
P7		P7		P7		P7	
P8		P8		P8		P8	
P9		P9		P9		P9	
P10		P10		P10		P10	
P11		P11		P11		P11	
P12		P12		P12		P12	
P13		P13		P13		P13	
P14		P14		P14		P14	
P15		P15		P15		P15	

	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0		P0		P0		P0	
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5		P5		P5		P5	
P6		P6		P6		P6	
P7		P7		P7		P7	
P8		P8		P8		P8	
P9		P9		P9		P9	
P10		P10		P10		P10	
P11		P11		P11		P11	
P12		P12		P12		P12	
P13		P13		P13		P13	
P14		P14		P14		P14	
P15		P15		P15		P15	

	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0		P0		P0		P0	
P1		P1		P1		P1	
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5		P5		P5		P5	
P6		P6		P6		P6	
P7		P7		P7		P7	
P8		P8		P8		P8	
P9		P9		P9		P9	
P10		P10		P10		P10	
P11		P11		P11		P11	
P12		P12		P12		P12	
P13		P13		P13		P13	
P14		P14		P14		P14	
P15		P15		P15		P15	

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

1	CL-HM	2	CL-HM	3	CL-HM	4	CL-HM
	(hrs) Time		(hrs) Time		(hrs) Time		(hrs) Time
P0	(ng/ml) CONC	P0	(ng/ml) CONC	P0	(ng/ml) CONC	P0	(ng/ml) CONC
P1	*	P1		P1	*	P1	*
P2		P2		P2		P2	
P3		P3		P3		P3	
P4		P4		P4		P4	
P5	942	P5		P5	1250	P5	
P6	372	P6		P6	525	P6	
P7	291	P7		P7	373	P7	
P8	212	P8	918	P8	167	P8	1010
P9	218	P9	698	P9	294	P9	668
P10	166	P10	569	P10	231	P10	649
P11	202	P11	559	P11	297	P11	592
P12		P12		P12		P12	
P13		P13		P13		P13	
P14		P14		P14		P14	
P15		P15		P15		P15	

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

5 CL-HM

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	1240
P8	829
P9	699
P10	654
P11	567
P12	
P13	
P14	
P15	

6 CL-HM

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	956
P8	706
P9	554
P10	586
P11	459
P12	
P13	
P14	
P15	

7 CL-HM

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	1090
P8	825
P9	768
P10	463
P11	456
P12	
P13	
P14	
P15	

8 CL-HM

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	

* = below assay sensitivity

Halofantrine as Free Base

12

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	1130
P10	989
P11	733
P12	
P13	
P14	
P15	

(hrs) Time	(ng/ml) CONC
P0	*
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	1000
P9	707
P10	693
P11	770
P12	
P13	
P14	
P15	

* = below assay sensitivity

Rat Perfusate Extraction Results (12/28/94)
Hal/bpl 93-7
Halofantrine as Free Base

13	CL-HM	14	CL-HM	15	CL-HM
	(hrs) Time	(hrs) Time	(ng/ml) CONC	(hrs) Time	(ng/ml) CONC
P0		P0	*	P0	*
P1		P1		P1	
P2		P2		P2	
P3		P3		P3	
P4		P4		P4	
P5		P5		P5	
P6		P6		P6	845
P7		P7		P7	609
P8		P8		P8	467
P9		P9		P9	497
P10		P10		P10	517
P11		P11		P11	510
P12		P12		P12	
P13		P13		P13	
P14		P14		P14	
P15		P15		P15	

* = below assay sensitivity

Final Bile Results (9/27/94)
Hal/bpl 93-7
WR 178,460 as Free Base

448

SUBJ #

1 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	*
B2	NS
B3	231
B4	370
B5	
B6	
B7	

5 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	83.2
B2	244
B3	349
B4	509
B5	
B6	
B7	

8 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	55.0
B2	179
B3	262
B4	381
B5	656
B6	895
B7	

3 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	115
B2	301
B3	NS
B4	NS
B5	
B6	
B7	

6 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	85.2
B2	171
B3	319
B4	367
B5	
B6	
B7	

9 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	108
B2	238
B3	368
B4	534
B5	790
B6	1180
B7	

4 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	36.9
B2	81.4
B3	162
B4	291
B5	
B6	
B7	

7 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	73.6
B2	218
B3	405
B4	616
B5	
B6	
B7	

10 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	127
B2	353
B3	562
B4	787
B5	
B6	
B7	

NS = No sample

Hal/bpl 93-7
WR 178,460 as Free Base

11 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	177
B2	545
B3	829
B4	1250
B5	1430
B6	1920
B7	

14 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	92.6
B2	307
B3	476
B4	615
B5	807
B6	987
B7	

17 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	47.2
B2	162
B3	271
B4	346
B5	535
B6	760
B7	921

12 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	60.5
B2	194
B3	393
B4	660
B5	
B6	
B7	

15 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	63.0
B2	126
B3	204
B4	317
B5	
B6	
B7	

18 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	48.0
B2	246
B3	429
B4	784
B5	887
B6	
B7	

13 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	59.3
B2	171
B3	298
B4	424
B5	
B6	
B7	

16 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	*
B2	60.6
B3	161
B4	238
B5	378
B6	526
B7	683

19 Cl-Hal

Time Period	(ng/ml) CONC
B0	*
B1	22.5
B2	85.0
B3	276
B4	517
B5	829
B6	1120
B7	1570

NS = No sample

Final Bile Results (9/27/94)
Hal/bpl 93-7
WR 178,460 as Free Base

450

20 CL-Hal

Time Period	(ng/ml) CONC
B0	*
B1	56.0
B2	292
B3	632
B4	950
B5	1390
B6	1880
B7	2280

3 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	29.2
B2	116
B3	213
B4	434
B5	687
B6	
B7	

6 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	74.0
B2	308
B3	538
B4	613
B5	655
B6	
B7	

1 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	22.0
B2	78.4
B3	146
B4	234
B5	344
B6	
B7	

4 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	67.6
B2	218
B3	269
B4	325
B5	317
B6	
B7	

7 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	87.4
B2	181
B3	288
B4	345
B5	303
B6	
B7	

2 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	68.8
B2	243
B3	431
B4	543
B5	532
B6	
B7	

5 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	55.3
B2	161
B3	160
B4	184
B5	153
B6	
B7	

8 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	62.2
B2	255
B3	407
B4	510
B5	448
B6	
B7	

NS = No sample

Hal/bpl 93-7

WR 178,460 as Free Base

9 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	43.7
B2	59.2
B3	99.8
B4	124
B5	120
B6	
B7	

12 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	67.0
B2	214
B3	251
B4	276
B5	231
B6	
B7	

15 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	57.3
B2	188
B3	229
B4	225
B5	147
B6	
B7	

10 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	155
B2	NS
B3	862
B4	838
B5	619
B6	
B7	

13 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	27.7
B2	96.2
B3	264
B4	393
B5	431
B6	
B7	

11 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	60.4
B2	116
B3	133
B4	131
B5	
B6	
B7	

14 CL-HM

Time Period	(ng/ml) CONC
B0	*
B1	*
B2	23.1
B3	42.3
B4	135
B5	161
B6	
B7	

NS = No sample

Final Liver Results (9/29/94)
 Hal/bpl 93-7
 Halofantrine and WR 178,460 as Free Bases
 in Liver Homogenate (1 g/5 ml buffer)

halofantrine

1 CL-HAL

(hrs) Time	(µg/ml) CONC
L1	16.4
L2	NS
L3	15.6
L4	18.1
L5	30.1
L6	9.24
L7	8.51
L8	6.94
L9	15.3
L10	21.2
L11	16.1
L12	13.2
L13	29.2
L14	17.8
L15	21.3
L16	10.7
L17	8.57
L18	24.8
L19	6.20
L20	5.42

metabolite

1 CL-HAL

(hrs) Time	(µg/ml) CONC
L1	4.34
L2	NS
L3	4.54
L4	7.18
L5	6.52
L6	4.05
L7	5.88
L8	2.49
L9	7.33
L10	6.92
L11	11.6
L12	4.98
L13	4.21
L14	6.91
L15	4.66
L16	4.11
L17	3.13
L18	9.10
L19	3.91
L20	8.81

Subjects CL-HM

(hrs) Time	(µg/ml) CONC
L1	7.97
L2	27.3
L3	16.1
L4	39.4
L5	36.3
L6	51.2
L7	35.7
L8	68.3
L9	16.6
L10	51.5
L11	11.5
L12	50.9
L13	21.3
L14	48.5
L15	20.2

Subjects CL-HM

(hrs) Time	(µg/ml) CONC
L1	2.58
L2	5.68
L3	7.84
L4	4.63
L5	2.84
L6	9.32
L7	4.09
L8	7.47
L9	2.31
L10	7.51
L11	1.34
L12	6.17
L13	3.74
L14	6.37
L15	3.45

NS = No sample

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ # 1 Single dose

Sample No.	(ng/ml) CONC
1	*
2	2.33
3	19.7
4	13.5
5	25.2
6	41.1
7	47.8
8	58.0
9	40.4
10	39.7
11	47.6
12	33.5
13	52.2
14	32.8
15	30.3
16	32.2
17	20.6
18	10.3
19	9.46
20	4.03

SUBJ # 2 Single dose

Sample No.	(ng/ml) CONC
1	*
2	5.09
3	10.8
4	17.2
5	12.7
6	27.9
7	27.2
8	44.6
9	33.5
10	31.1
11	45.2
12	25.7
13	28.6
14	27.0
15	24.7
16	19.2
17	17.0
18	9.72
19	8.36
20	2.69

SUBJ # 3 Single dose

Sample No.	(ng/ml) CONC
1	*
2	3.13
3	9.79
4	16.1
5	28.0
6	33.7
7	38.8
8	61.4
9	40.2
10	32.3
11	48.4
12	32.7
13	36.3
14	40.0
15	27.8
16	22.5
17	20.6
18	13.6
19	13.1
20	4.32

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ #

4

Single dose

Sample No.	(ng/ml) CONC
1	*
2	4.86
3	9.71
4	16.9
5	22.2
6	25.2
7	26.7
8	39.8
9	36.3
10	28.4
11	46.7
12	28.1
13	33.0
14	33.3
15	25.2
16	22.9
17	20.4
18	14.6
19	8.91
20	4.17

SUBJ #

5

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	4.20
4	4.90
5	10.2
6	19.3
7	21.2
8	21.7
9	21.3
10	23.3
11	25.8
12	23.7
13	25.2
14	24.8
15	16.6
16	17.3
17	12.8
18	8.95
19	6.49
20	4.31

SUBJ #

6

Single dose

Sample No.	(ng/ml) CONC
1	*
2	2.38
3	9.09
4	17.0
5	17.2
6	24.9
7	28.2
8	39.6
9	27.6
10	28.2
11	43.2
12	29.0
13	31.7
14	25.2
15	24.5
16	23.7
17	15.1
18	13.2
19	9.66
20	4.19

* = Below Assay Sensitivity
 NS = No Sample

NA = Not Applicable
 NR = Not Run

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ #

7

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	5.13
4	20.1
5	26.3
6	51.9
7	60.3
8	65.6
9	52.0
10	56.6
11	62.2
12	57.3
13	74.6
14	64.2
15	45.8
16	60.2
17	31.2
18	34.5
19	31.8
20	10.3

SUBJ #

8

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	4.76
4	27.6
5	38.5
6	40.0
7	57.2
8	92.4
9	55.7
10	47.9
11	61.6
12	62.8
13	63.9
14	62.8
15	50.8
16	32.3
17	30.8
18	20.4
19	16.0
20	8.98

SUBJ #

9

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	6.82
4	25.4
5	49.2
6	73.8
7	77.2
8	101
9	66.5
10	77.6
11	82.8
12	79.5
13	76.2
14	84.1
15	68.0
16	NS
17	41.3
18	25.7
19	12.6
20	4.10

* = Below Assay Sensitivity
 NS = No Sample

NA = Not Applicable
 NR = Not Run

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ #

10

Single dose

Sample No.	(ng/ml) CONC
1	*
2	1.34
3	11.6
4	33.0
5	38.0
6	69.9
7	74.8
8	96.7
9	71.7
10	75.5
11	72.4
12	72.0
13	84.1
14	78.1
15	58.2
16	52.9
17	37.3
18	30.0
19	21.8
20	9.72

SUBJ #

11

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	4.69
4	33.4
5	44.5
6	52.3
7	59.3
8	106
9	76.2
10	72.3
11	85.0
12	82.9
13	65.5
14	61.6
15	58.2
16	55.7
17	40.9
18	23.1
19	14.2
20	7.68

SUBJ #

12

Single dose

Sample No.	(ng/ml) CONC
1	*
2	2.54
3	30.0
4	39.6
5	41.6
6	62.9
7	65.7
8	108
9	63.2
10	62.7
11	79.2
12	55.1
13	58.0
14	71.4
15	47.4
16	49.7
17	35.1
18	27.5
19	21.6
20	10.7

* = Below Assay Sensitivity
 NS = No Sample

NA = Not Applicable
 NR = Not Run

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ #

13

Single dose

Sample No.	(ng/ml) CONC
1	*
2	4.82
3	15.2
4	41.6
5	74.5
6	105
7	119
8	142
9	115
10	116
11	126
12	102
13	123
14	108
15	92.3
16	105
17	72.4
18	47.2
19	38.6
20	22.2

SUBJ #

14

Single dose

Sample No.	(ng/ml) CONC
1	*
2	3.54
3	15.5
4	36.0
5	54.8
6	85.0
7	106
8	139
9	117
10	116
11	137
12	106
13	170
14	120
15	99.8
16	73.1
17	68.2
18	44.3
19	35.5
20	17.2

SUBJ #

15

Single dose

Sample No.	(ng/ml) CONC
1	*
2	8.59
3	31.5
4	51.0
5	85.0
6	131
7	152
8	178
9	129
10	134
11	146
12	142
13	157
14	108
15	120
16	88.6
17	67.6
18	61.7
19	54.5
20	21.7

* = Below Assay Sensitivity
 NS = No Sample

NA = Not Applicable
 NR = Not Run

ANALYTICAL RESULTS (Final 9/16/94)
WR5/BP 93-8
WR 238,605 Free Base in Plasma

SUBJ #
16

Single dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	7.91
4	22.7
5	78.4
6	184
7	173
8	212
9	165
10	155
11	190
12	150
13	205
14	195
15	179
16	140
17	90.8
18	71.4
19	59.8
20	26.8

SUBJ #
17

Single dose

Sample No.	(ng/ml) CONC
1	*
2	4.52
3	7.51
4	21.6
5	61.4
6	140
7	137
8	142
9	139
10	132
11	129
12	178
13	133
14	113
15	88.5
16	80.6
17	54.5
18	43.2
19	26.5
20	11.8

SUBJ #
18

Single dose

Sample No.	(ng/ml) CONC
1	*
2	3.28
3	19.9
4	59.3
5	44.6
6	103
7	103
8	223
9	187
10	191
11	149
12	99.0
13	136
14	163
15	106
16	123
17	71.7
18	64.0
19	47.5
20	23.9

* = Below Assay Sensitivity
 NS = No Sample

NA = Not Applicable
 NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #	Single Oral dose	SUBJ #	Single Oral dose	SUBJ #	Single Oral dose
1		2		3	
Sample No.	(ng/ml) CONC	Sample No.	(ng/ml) CONC	Sample No.	(ng/ml) CONC
1	*	1	*	1	*
2	3.59	2	10.2	2	5.89
3	3.49	3	14.8	3	17.4
4	8.32	4	24.2	4	26.4
5	43.6	5	29.1	5	52.3
6	10.3	6	12.6	6	45.0
7	3.95	7	51.7	7	64.5
8	108	8	60.5	8	75.0
9	2.17	9	16.1	9	42.0
10	16.2	10	62.4	10	50.7
11	93.8	11	56.6	11	70.2
12	11.0	12	66.4	12	41.7
13	57.4	13	63.8	13	56.5
14	64.0	14	44.0	14	58.0
15	12.6	15	43.7	15	22.0
16	50.5	16	28.1	16	39.8
17	20.2	17	20.1	17	34.0
18	25.6	18	16.7	18	20.8
19	18.0	19	14.0	19	20.1
20	8.19	20	5.61	20	11.8

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #	Single Oral dose	SUBJ #	Single Oral dose	SUBJ #	Single Oral dose
4		5		6	
Sample No.	(ng/ml) CONC	Sample No.	(ng/ml) CONC	Sample No.	(ng/ml) CONC
1	*	1	*	1	*
2	4.08	2	*	2	6.62
3	16.1	3	4.30	3	15.9
4	30.9	4	8.63	4	26.2
5	34.9	5	14.4	5	30.3
6	43.9	6	35.1	6	23.3
7	15.3	7	33.4	7	32.8
8	58.5	8	37.1	8	70.9
9	22.4	9	40.2	9	54.7
10	24.8	10	46.2	10	63.0
11	65.0	11	41.7	11	66.1
12	55.6	12	35.4	12	60.9
13	52.8	13	32.2	13	68.2
14	48.5	14	34.2	14	50.2
15	37.1	15	22.3	15	44.5
16	43.5	16	21.8	16	38.5
17	27.6	17	13.4	17	29.1
18	20.2	18	*	18	20.7
19	15.4	19	7.00	19	15.2
20	8.63	20	*	20	8.05

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #

7

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	2.96
3	12.9
4	49.3
5	56.9
6	118
7	117
8	143
9	139
10	133
11	112
12	116
13	129
14	101
15	71.1
16	81.4
17	62.7
18	43.9
19	34.6
20	20.4

SUBJ #

8

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	8.18
4	48.5
5	80.5
6	98.2
7	95.7
8	114
9	122
10	106
11	96.4
12	108
13	90.5
14	78.2
15	68.0
16	63.8
17	44.9
18	31.3
19	26.5
20	13.9

SUBJ #

9

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	*
3	12.6
4	57.4
5	94.5
6	138
7	153
8	185
9	159
10	152
11	113
12	148
13	133
14	104
15	89.6
16	NS
17	57.5
18	37.6
19	15.1
20	8.39

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #

10

Single Oral dose

Sample No.	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20

(ng/ml) CONC	*
	2.89
	20.9
	65.4
	70.2
	144
	171
	163
	166
	150
	122
	149
	116
	115
	90.7
	86.6
	60.1
	40.6
	26.4
	15.5

SUBJ #

11

Single Oral dose

Sample No.	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20

(ng/ml) CONC	*
	*
	11.5
	71.2
	105
	147
	178
	224
	203
	172
	161
	171
	140
	136
	111
	113
	77.9
	44.9
	30.5
	14.8

SUBJ #

12

Single Oral dose

Sample No.	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20

(ng/ml) CONC	*
	4.99
	80.4
	97.6
	115
	209
	234
	217
	207
	191
	185
	198
	173
	171
	125
	115
	86.3
	80.9
	45.3
	25.0

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #

13

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	9.26
3	36.6
4	93.7
5	131
6	198
7	233
8	294
9	249
10	218
11	218
12	216
13	211
14	220
15	181
16	163
17	112
18	89.6
19	74.1
20	51.2

SUBJ #

14

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	8.84
3	31.8
4	83.0
5	131
6	201
7	177
8	206
9	208
10	186
11	197
12	190
13	189
14	192
15	169
16	181
17	132
18	95.2
19	54.2
20	27.5

SUBJ #

15

Single Oral dose

Sample No.	(ng/ml) CONC
1	*
2	15.2
3	57.6
4	151
5	187
6	280
7	341
8	298
9	303
10	288
11	249
12	297
13	216
14	205
15	181
16	141
17	120
18	114
19	86.5
20	41.6

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

ANALYTICAL RESULTS (Final 2/7/95)
WR5/BP 93-8
WR 238,605 Free Base in Blood

SUBJ #		Single Oral dose
16		

Sample No.	(ng/ml) CONC
1	*
2	*
3	20.6
4	62.7
5	224
6	406
7	360
8	428
9	428
10	353
11	337
12	475
13	470
14	362
15	274
16	263
17	168
18	135
19	104
20	50.2

SUBJ #		Single Oral dose
17		

Sample No.	(ng/ml) CONC
1	*
2	10.0
3	20.4
4	64.2
5	171
6	302
7	316
8	327
9	329
10	325
11	314
12	289
13	276
14	243
15	193
16	174
17	115
18	80.8
19	59.7
20	26.1

SUBJ #		Single Oral dose
18		

Sample No.	(ng/ml) CONC
1	*
2	8.71
3	47.3
4	169
5	189
6	347
7	363
8	349
9	402
10	364
11	349
12	333
13	337
14	261
15	196
16	162
17	155
18	105
19	85.1
20	41.8

* = Below Assay Sensitivity NA = Not Applicable
 NS = No Sample NR = Not Run

CONCENTRATIONS OF WR 269,410 IN DOG PLASMA (Continued)
STUDY 93-9

IV Dose					
Dog No.	1148	1149	1151	1152	1153
Time	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)
0 min.	*	*	*	*	*
3 min.	3340	2530	3310	2950	2860
5 min.	3010	2420	3620	2790	2570
10 min.	2300	2160	2620	2420	2280
20 min.	1640	1510	1950	1840	1820
30 min.	1240	1250	1550	1460	1390
45 min.	1010	918	1150	1020	1080
1.0 hr.	766	873	957	687	1040
1.5 hr.	517	636	656	668	693
2.0 hr.	421	562	639	527	648
2.5 hr.	378	425	488	379	559
3.0 hr.	333	357	497	314	NS
4.0 hr.	238	268	403	257	331
6.0 hr.	181	141	240	176	192
8.0 hr.	133	129	190	129	140
12 hr.	89.5	77.4	154	67.5	77.3
24 hr.	28.4	25.6	41.6	27.8	22.0
28 hr.	25.3	22.4	34.3	21.8	19.6
36 hr.	15.6	NS	NS	17.1	NS
48 hr.	12.5	NS	NS	9.31	NS

* Below Limit of Quantitation - 4.08 ng/ml
NS - No Sample

CONCENTRATIONS OF WR 269,410 IN DOG PLASMA
STUDY 93-9

Oral Dose

Dog No.	1148	1149	1151	1152	1153
Time	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)	Conc. (ng/ml)
0 min	*	*	*	*	*
3 min.	9.86	6.45	8.84	16.2	4.48
5 min	27.6	25.2	24.4	31.6	21.3
10 min.	109	47.9	56.7	157	62.1
20 min.	408	230	207	426	230
30 min.	558	385	388	588	309
45 min.	667	516	567	569	447
1.0 hr.	663	568	519	559	541
1.5 hr.	538	474	434	384	632
2.0 hr.	468	412	381	325	214
2.5 hr.	355	335	334	236	452
3.0 hr.	279	237	231	196	364
4.0 hr.	183	114	210	119	242
6.0 hr.	66.7	96.2	173	71.0	138
8.0 hr.	72.1	67.8	119	62.8	102
12 hr.	46.4	51.3	104	38.7	59.3
24 hr.	18.7	14.8	35.8	14.1	18.3
28 hr.	17.3	16.9	26.1	14.8	16.8
36 hr.	NS	9.83	15.7	NS	11.1
48 hr.	NS	7.28	11.3	NS	7.54

* Below Limit of Quantitation - 4.08 ng/ml

Monkey blood final results		
11/22/94		
Subject 86085		
Sample No.	(ng/ml)	
1	78.3	
2	58.9	
3	60.1	
4	42.6	
Subject 12589		
Sample No.	(ng/ml)	
1	91.4	
2	89.2	
3	80.7	
4	88.6	
Subject 86040		
Sample No.	(ng/ml)	
1	30.9	
2	35.9	
3	51.3	
4	28.4	

CONCENTRATIONS OF WR 269,410 IN RAT PLASMA
STUDY 94-2

Oral Pilot		IV Pilot	
Conc.		Conc.	
Rat No. - Time (hr)	(ng/ml)	Rat No. - Time (hr)	(ng/ml)
49-0	*	0-0	*
25-0.25	96.2	1-0.25	1110
26-0.25	259	2-0.25	898
27-0.50	197	3-0.50	567
28-0.50	111	4-0.50	709
29-0.75	85.0	5-0.75	477
30-0.75	323	6-0.75	309
31-1.0	53.8	7-1.0	245
32-1.0	178	8-1.0	247
33-2.0	81.0	9-2.0	132
34-2.0	51.5	10-2.0	62.8
35-3.0	43.4	11-3.0	31.8
36-3.0	30.2	12-3.0	27.2
37-4.0	30.4	13-4.0	23.2
38-4.0	34.3	14-4.0	24.1
39-6.0	14.4	15-6.0	16.9
40-6.0	41.6	16-6.0	12.4
41-8.0	14.0	17-8.0	8.66
42-8.0	8.47	18-8.0	7.61
43-12	6.24	19-12	6.24
44-12	8.97	20-12	8.16
45-24	*	21-24	*
46-24	*	22-24	*
47-24	*	23-24	*
48-24	*	24-24	*

* Below Limit of Quantitation - 4.08 ng/ml

CONCENTRATIONS OF WR 269,410 IN RAT PLASMA (Continued)
STUDY 94-2

Rat No. - Time (hr)	Oral Main Conc. (ng/ml)	Rat No. - Time (hr)	IV Main Conc. (ng/ml)
100-0	*	151-0	*
50-0.25	478	101-0.25	792
51-0.25	447	102-0.25	803
52-0.25	261	103-0.25	915
53-0.25	186	104-0.25	885
54-0.50	234	105-0.50	506
55-0.50	186	106-0.50	398
56-0.50	256	107-0.50	536
57-0.50	339	108-0.50	638
58-0.75	251	109-0.75	369
59-0.75	240	110-0.75	278
60-0.75	354	111-0.75	374
61-0.75	138	112-0.75	293
62-1.0	83.2	113-1.0	252
63-1.0	205	114-1.0	285
64-1.0	117	115-1.0	192
65-1.0	79.0	116-1.0	225
66-2.0	57.3	117-2.0	92.4
67-2.0	40.5	118-2.0	79.6
68-2.0	46.3	119-2.0	85.8
69-2.0	49.2	120-2.0	56.4
70-3.0	20.1	121-3.0	28.3
71-3.0	33.8	122-3.0	28.0
72-3.0	31.7	123-3.0	24.3
73-3.0	37.4	124-3.0	35.0
74-4.0	35.9	125-4.0	21.4
75-4.0	20.6	126-4.0	24.3
76-4.0	22.2	127-4.0	30.5
77-4.0	26.6	128-4.0	20.6
78-6.0	15.4	129-6.0	9.57
79-6.0	14.2	130-6.0	8.61
80-6.0	19.3	131-6.0	9.76
81-6.0	12.1	132-6.0	10.1

* Below Limit of Quantitation - 4.08 ng/ml

CONCENTRATIONS OF WR 269,410 IN RAT PLASMA (Continued)
STUDY 94-2

Rat No. - Time (hr)	Oral Main Conc. (ng/ml)	Rat No. - Time (hr)	IV Main Conc. (ng/ml)
82-8.0	12.2	133-8.0	5.87
83-8.0	8.72	134-8.0	5.74
84-8.0	15.5	135-8.0	10.6
85-8.0	8.39	136-8.0	7.30
86-12	5.94	137-12	*
87-12	4.64	138-12	*
88-12	7.36	139-12	4.39
89-12	6.84	140-12	*
90-24	*	141-24	*
91-24	*	142-24	*
92-24	*	143-24	*
93-24	*	144-24	*
94-48	*	145-48	*
95-48	*	146-48	*
96-48	*	147-48	*
97-48	*	148-48	*
98-48	*	149-48	*
99-48	*	150-48	*

* Below Limit of Quantitation - 4.08 ng/ml

WR6/PU 94-3.final

2/10/97

Subject	Time	Plasma	Plasma	Urine	Urine	Urine	
		WR6026 (ng/ml)	WR211789 (ng/ml)	WR6026 (ng/ml)	WR211789 (ng/ml)	WR254421 (ng/ml)	
1A	WK-1	*	*	*	*	*	
	Day 7	63.2	43.3	215	82.4	1510	
1B	WK-1	*	*	*	*	*	
	Day 7	8.29	11.9	264	96.4	1380	
	Day 14	9.11	12.1	191	62.1	831	
	Day 21	7.94	11.1	245	88.1	1000	
	Day 28	6.66	10.1	70.9	59	468	
	Day 42	*	*	*	*	*	
1C	WK-1	*	*	*	*	*	
	Day 7	45.1	64.2	115	45.7	824	
	Day 14	33	61.1	68.8	36.3	610	
	Day 21	28.5	56.4	24.3	16	271	
	Day 28	28.5	54.6	*	*	54.3	
	Day 35	*	*	ns	ns	ns	
1D	WK-1	*	*	*	*	*	
	Day 7	33.7	34.7	163	54.8	2350	
	Day 14	37.4	40.1	37.2	15.2	522	
	Day 21	29.5	39.1	22.6	11.6	474	
	Day 28	26.1	33.8	9.33	8.09	235	
	Day 42	*	*	*	*	*	
2A	WK-1	*	*	*	*	*	
	Day 7	197	124	636	276	1510	
	Day 14	30.3	56.4	590	267	1360	
	Day 21	63.9	90.4	1830	872	2990	
	Day 28	58.1	97.5	(day 31) 28.5	(day 31) 14.0	(day 31) 73.2	
	Day 42	*	*	*	*	*	
2B	WK-1	*	*	*	*	*	
	Day 7	362	102	697	189	1830	
	Day 14	230	108	2320	1000	4390	
	Day 21	71.4	90.4	464	181	1790	
	day 30	Day 28	41.8	70	(day 30) 117	(day 30) 114	(day 30) 661
	Day 42	*	*	*	*	*	
2C	WK-1	*	*	*	*	*	
	Day 7	38.3	51.9	29	10.6	487	
	Day 14	29.5	49	40.4	25.2	716	
	Day 21	24.2	31.5	122	30.1	856	
	Day 28	15.2	26.2	7.28	9.2	132	
	Day 42	*	*	*	*	*	

ns = no sample; * = below assay sensitivity (1.00 ng/ml in plasma, 5 ng/ml for WR 6026 and WR 211789 and 50 ng/ml for WR 254421 in urine); Numbers in parenthesis indicate rescheduled day.

WR6/PU 94-3.final

2/10/97

Subject	Time	Plasma	Plasma	Urine	Urine	Urine
		WR6026 (ng/ml)	WR211789 (ng/ml)	WR6026 (ng/ml)	WR211789 (ng/ml)	WR254421 (ng/ml)
2D	WK-1	*	*	*	*	*
	Day 7	198	92.1	36.5	21.7	641
	Day 14	135	67.1	357	111	2430
	Day 21	85.2	52.8	264	82.7	2400
	Day 28	52	41	27.6	28.9	680
	Day 31	3.87	1.33	ns	ns	ns
2E	WK-1	*	*	*	*	*
	Day 7	956	362	828	578	252
	Day 14	671	300	1510	710	276
	Day 21	563	191	1720	740	452
	Day 28	661	220	577	262	165
	Day 42	3.89 *		16.6	*	*
2F	WK-1	*	*	*	*	*
	Day 7	56.8	56.9	246	137	1480
	Day 14	64.7	51.5	633	319	1850
	Day 21	53.8	40.5	707	339	2500
	Day 28	44.1	36.1	139	148	967
	Day 42	*	*	*	*	*
3A	WK-1	*	*	*	*	*
	Day 7	72.4	58.3	505	286	6060
	Day 14	39.9	33.4	539	282	3820
	Day 21	34.4	24.9	245	82.3	2730
	Day 28	43.7	30	209	159	2490
	Day 42	*	*	*	*	67.3
3B	WK-1	*	*	*	*	*
	Day 7	142	84.2	366	228	2000
	Day 14	106	81.6	403	397	2560
	Day 21	136	95.5	455	223	1620
	Day 28	271	146	177	164	1460
	Day 42	*	*	*	*	*
3C	WK-1	*	*	*	*	*
	Day 7	185	144	443	250	1580
	Day 14	115	108	915	753	1780
	Day 21	112	90.8	2260	1230	2830
	Day 28	67	56.6	238	229	1250
	Day 42	*	*	*	*	*

ns = no sample; * = below assay sensitivity (1.00 ng/ml in plasma, 5 ng/ml for WR 6026 and WR 211789 and 50 ng/ml for WR 254421 in urine); Numbers in parenthesis indicate rescheduled day.

WR6/PU 94-3.final

2/10/97

Subject	Time	Plasma	Plasma	Urine	Urine	Urine
		WR6026 (ng/ml)	WR211789 (ng/ml)	WR6026 (ng/ml)	WR211789 (ng/ml)	WR254421 (ng/ml)
3D	WK-1	*	*	*	*	*
	Day 7	370	118	792	295	2190
	Day 14	245	109	695	258	1970
	Day 21	161	81.8	2180	740	3900
	Day 28	146	79.4	252	185	1470
	Day 42	*	*	*	*	*
3E	WK-1	*	*	*	*	*
	Day 7	150	71.9	644	305	2290
	Day 14	63.4	45.6	675	327	2120
	Day 21	61	47.9	1310	529	2920
	Day 28	61	41.3	302	200	972
	Day 42	*	*	*	*	*
3F	WK-1	*	*	*	*	*
	Day 7	267	105	189	40.7	1050
	Day 14	111	87.2	152	32.8	728
	Day 21	140	73.9	528	167	2280
	Day 28	128	62.2	108	58.2	955
	Day 42	*	*	*	*	*

ns = no sample; * = below assay sensitivity (1.00 ng/ml in plasma, 5 ng/ml for WR 6026 and WR 211789 and 50 ng/ml for WR 254421 in urine); Numbers in parenthesis indicate rescheduled day.

94-4 final data11/21/94

Plasma results		Blood results	
Subject 1		Subject 1	
sample	conc (ng/ml)	sample	conc (ng/ml)
1	*	1	*
2	238	2	453
3	164	3	313
4	158	4	267
5	159	5	209
6	72.2	6	107
7	40.8	7	70.0
Subject 3		Subject 3	
sample	conc (ng/ml)	sample	conc (ng/ml)
1	*	1	*
2	283	2	417
3	195	3	240
4	128	4	209
5	119	5	156
6	50.2	6	83.3
7	26.1	7	44.8
Subject 4		Subject 4	
sample	conc (ng/ml)	sample	conc (ng/ml)
1	*	1	*
2	182	2	244
3	96.3	3	124
4	92.4	4	113
5	74.3	5	94.6
6	48	6	43.5
7	17.8	7	22.5
Subject 5		Subject 5	
sample	conc (ng/ml)	sample	conc (ng/ml)
1	*	1	*
2	302	2	489
3	188	3	352
4	159	4	275
5	137	5	210
6	51.7	6	84.3
7	30.5	7	46.5

WR5/P 94-5

**TABLE 1: ACCURACY OF WR 238,605 (AS FREE BASE) DOG PLASMA
ASSAY (BLIND STUDY RESULTS) October 94**

Sample Number	Spiked Level (ng/ml)	Measured Level [#] (ng/ml)	Statistics (ng/ml)
1,2,5,7 9,10,14,15 18,19,22,24 26,28,29	0	* * * *	
6 12	2	3.86 4.28	Mean = 4.07 SD = 0.297 Percent CV = 7.30 Percent Bias = 104
3 16 27	5	5.02 5.53 5.74	Mean = 5.43 SD = 0.370 Percent CV = 6.82 Percent Bias = 8.60
11 17 25	12	11.6 12.7 13.0	Mean = 12.4 SD = 0.737 Percent CV = 5.93 Percent Bias = 3.61
13 23	60	61.4 70.4	Mean = 65.9 SD = 6.36 Percent CV = 9.66 Percent Bias = 9.83
4 21 30	220	184 263 226	Mean = 224 SD = 39.5 Percent CV = 17.6 Percent Bias = 1.97
8 20	380	316 279	Mean = 298 SD = 26.2 Percent CV = 8.79 Percent Bias = -21.7

[#] Mean of three analyses.

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	1	2	3	4	7	8	10	11
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	12.3	18.5	9.64	18.1	18.1	11.9	5.34	6.44
Day 1 - 1.5	17.7	18.2	17.2	26.8	21.7	26.1	11.2	11.3
Day 1 - 2.0	17.5	26.3	22.3	22.3	28.7	26.5	12.9	11.8
Day 1 - 2.5	18.3	21.6	22.4	15.7	26.1	23.8	15.7	11.5
Day 1 - 3.0	12.9	14.7	17.3	14.7	22.0	21.2	14.6	14.2
Day 1 - 4.0	9.07	10.9	14.0	10.9	15.5	17.5	11.1	10.8
Day 1 - 5.0	6.35	6.87	9.35	6.58	10.8	12.3	8.14	7.25
Day 1 - 6.0	4.04	4.72	7.65	4.58	6.65	7.30	4.85	5.86
Day 1 - 7.0	3.20	2.52	5.63	2.79	4.67	5.22	4.34	4.20
Day 1 - 8.0	2.40	*	5.44	2.31	4.06	4.72	3.39	3.28
Day 4 - 0	2.77	4.74	7.16	3.57	5.86	8.54	6.13	3.19
Day 7 - 0	2.70	3.36	8.44	*	6.37	6.33	7.69	8.06
Day 9 - 0	3.66	4.19	6.15	*	7.56	10.1	5.39	5.70
Day 11 - 0	2.66	6.52	6.40	2.45	6.89	9.90	5.22	5.61
Day 14 - 0	5.44	3.82	7.75	5.92	7.33	12.3	5.84	9.34
Day 16 - 0	2.34	3.09	6.63	3.91	7.31	9.18	8.52	5.08
Day 18 - 0	3.94	4.69	5.15	2.98	6.04	12.1	7.71	5.01
Day 21 - 0	4.00	6.04	8.10	4.78	7.73	8.98	4.61	4.33
Day 22 - 0	5.03	5.83	7.50	4.26	11.2	11.5	7.33	5.43
Day 22 - 1.0	22.7	20.5	16.1	25.5	11.5	21.3	8.47	10.2
Day 22 - 1.5	28.7	25.3	18.7	23.6	24.2	24.0	11.8	15.5
Day 22 - 2.0	30.0	21.0	27.9	21.3	28.6	24.7	13.1	16.2
Day 22 - 2.5	27.7	17.4	25.7	16.4	31.5	23.6	15.5	16.1
Day 22 - 3.0	21.9	15.3	28.9	14.3	27.9	20.4	17.3	14.9
Day 22 - 4.0	20.1	9.51	24.8	11.7	17.6	16.1	14.4	12.2
Day 22 - 5.0	13.1	6.66	15.2	8.10	12.8	12.5	11.9	9.65
Day 22 - 6.0	7.64	5.17	13.4	5.08	8.98	7.76	7.80	7.57
Day 22 - 7.0	5.60	2.52	9.45	3.73	7.22	6.89	6.42	5.70
Day 22 - 8.0	4.55	2.86	9.45	3.32	5.30	5.46	5.06	4.27
Day 22 - 10	3.94	1.86	7.84	2.63	4.48	3.41	4.37	3.01
Day 22 - 12	2.18	*	5.15	*	2.79	2.94	2.70	3.03
Day 22 - 14	1.74	*	4.62	*	2.27	2.05	2.08	1.66
Day 22 - 18	*	*	3.29	*	1.89	1.65	*	*
Day 22 - 24	*	*	2.10	*	1.85	*	*	*
Day 22 - 28	*	*	2.88	*	*	*	*	*
Day 22 - 36	*	*	2.30	*	*	*	*	*
Day 22 - 40	*	*	2.33	*	*	*	*	*
Day 22 - 48	*	*	2.00	*	*	*	*	*
Day 22 - 52	*	*	1.97	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	13	15	16	18	20	21	23	24
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	9.22	*	3.22	3.54	13.6	14.9	15.9	13.1
Day 1 - 1.5	11.2	4.92	6.96	4.71	17.0	17.8	17.8	15.4
Day 1 - 2.0	10.8	9.29	12.3	5.23	20.9	24.0	16.7	15.3
Day 1 - 2.5	10.5	10.4	11.8	7.14	17.4	26.0	21.5	13.4
Day 1 - 3.0	10.0	10.9	13.6	8.04	14.0	22.8	21.0	12.1
Day 1 - 4.0	9.78	10.1	22.9	5.73	10.7	18.1	17.0	8.86
Day 1 - 5.0	6.64	6.13	15.0	3.44	8.02	13.4	10.0	6.84
Day 1 - 6.0	4.47	4.34	10.1	2.10	5.35	7.71	6.81	5.07
Day 1 - 7.0	3.55	2.92	8.41	*	4.01	5.61	6.18	3.30
Day 1 - 8.0	3.30	2.66	6.69	*	2.76	5.28	4.17	3.35
Day 4 - 0	8.26	4.94	6.94	3.81	5.47	9.65	8.46	10.4
Day 7 - 0	6.11	4.60	9.54	2.20	6.37	6.30	7.40	9.67
Day 9 - 0	7.93	3.50	6.65	5.88	6.51	11.2	9.91	9.48
Day 11 - 0	7.21	3.91	7.37	3.98	3.95	7.26	8.62	8.83
Day 14 - 0	5.95	5.66	9.70	3.65	3.16	10.9	8.95	7.93
Day 16 - 0	5.91	2.79	8.20	2.18	6.32	8.90	8.27	7.63
Day 18 - 0	5.05	5.66	5.37	2.62	3.88	6.86	7.12	6.64
Day 21 - 0	3.91	6.15	6.59	2.67	3.25	7.38	9.47	7.37
Day 22 - 0	5.03	5.32	5.59	3.56	4.35	15.1	8.83	10.4
Day 22 - 1.0	12.6	7.68	6.15	6.39	26.1	55.1	32.5	33.0
Day 22 - 1.5	15.5	11.8	11.6	11.4	25.2	52.9	33.5	30.7
Day 22 - 2.0	15.4	16.8	15.9	12.6	20.8	46.6	28.6	27.1
Day 22 - 2.5	15.0	20.9	20.0	11.5	17.3	48.8	28.6	24.8
Day 22 - 3.0	12.8	20.9	19.5	12.3	15.6	38.5	26.3	21.6
Day 22 - 4.0	10.6	14.1	14.3	9.65	11.4	30.6	22.8	17.7
Day 22 - 5.0	8.89	12.3	12.2	6.96	8.43	28.7	16.8	16.6
Day 22 - 6.0	5.66	8.13	7.99	3.14	4.07	14.7	10.6	10.7
Day 22 - 7.0	5.30	5.93	5.86	2.53	2.95	10.7	10.3	8.98
Day 22 - 8.0	3.66	5.26	8.95	1.83	2.67	9.02	8.00	7.69
Day 22 - 10	3.23	2.05	2.70	*	1.78	4.56	4.30	5.41
Day 22 - 12	2.45	*	1.82	*	*	2.64	2.39	3.84
Day 22 - 14	*	*	*	*	*	2.34	3.35	3.50
Day 22 - 18	*	*	*	*	*	1.94	1.83	1.80
Day 22 - 24	*	*	*	*	*	*	1.76	*
Day 22 - 28	*	*	*	*	*	*	*	*
Day 22 - 36	*	*	*	*	*	*	*	*
Day 22 - 40	*	*	*	*	*	*	*	*
Day 22 - 48	*	*	*	*	*	*	*	*
Day 22 - 52	*	*	*	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	26	27	28	29	31	32	33	38
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	22.6	25.5	20.4	32.3	31.1	12.0	21.3	2.25
Day 1 - 1.5	25.9	25.7	50.7	22.5	32.1	14.4	22.0	3.91
Day 1 - 2.0	17.5	25.3	22.0	45.3	*	23.0	12.2	14.5
Day 1 - 2.5	15.6	24.5	24.4	35.6	18.3	14.6	17.7	23.0
Day 1 - 3.0	11.6	27.1	19.7	33.4	16.2	13.9	13.7	15.9
Day 1 - 4.0	7.60	19.7	13.5	24.9	12.5	9.84	10.2	10.8
Day 1 - 5.0	6.07	16.6	9.48	15.0	9.31	8.26	7.79	6.50
Day 1 - 6.0	4.38	10.9	7.60	10.8	5.95	4.96	6.12	3.22
Day 1 - 7.0	4.11	8.37	3.89	8.35	4.80	3.76	3.92	2.96
Day 1 - 8.0	3.78	6.91	3.05	6.27	4.11	3.34	3.34	2.00
Day 4 - 0	12.1	13.0	6.36	8.21	7.89	9.63	9.70	*
Day 7 - 0	9.35	13.4	7.37	5.98	9.18	9.18	7.23	4.03
Day 9 - 0	12.6	16.1	8.16	7.44	8.68	12.9	8.73	3.05
Day 11 - 0	7.78	13.4	5.32	7.13	8.10	11.2	10.4	4.71
Day 14 - 0	12.3	11.5	8.23	5.77	7.65	8.25	10.4	3.49
Day 16 - 0	10.6	13.2	4.81	7.19	8.84	8.66	9.12	5.40
Day 18 - 0	11.4	13.3	5.01	8.25	7.35	7.80	9.92	3.15
Day 21 - 0	11.2	14.0	10.9	6.20	9.63	6.45	*	4.05
Day 22 - 0	9.30	10.6	6.14	6.29	10.2	11.2	10.1	*
Day 22 - 1.0	31.8	31.6	19.4	28.4	47.6	20.0	28.6	22.4
Day 22 - 1.5	37.0	32.7	23.9	35.7	37.8	22.6	35.6	21.8
Day 22 - 2.0	33.3	29.6	20.4	28.8	29.6	25.7	35.5	19.4
Day 22 - 2.5	26.3	28.6	22.1	22.7	25.2	23.9	30.3	13.5
Day 22 - 3.0	24.8	25.6	17.8	18.1	19.3	17.0	24.7	10.7
Day 22 - 4.0	18.2	20.6	14.2	14.4	18.0	14.7	15.9	7.11
Day 22 - 5.0	17.5	17.9	9.79	11.2	12.5	12.2	10.4	4.84
Day 22 - 6.0	11.6	8.78	6.86	7.24	11.3	8.95	8.83	3.25
Day 22 - 7.0	10.1	7.68	5.91	5.26	6.77	7.92	6.99	2.61
Day 22 - 8.0	8.70	7.79	4.11	4.35	4.65	6.52	4.38	1.91
Day 22 - 10	5.80	4.94	2.98	3.12	3.25	5.89	4.38	*
Day 22 - 12	4.98	4.25	2.82	2.37	2.73	3.43	2.85	*
Day 22 - 14	4.25	3.05	2.28	2.56	2.69	3.34	2.15	*
Day 22 - 18	2.34	2.23	1.79	*	*	1.92	*	*
Day 22 - 24	2.50	1.84	1.70	*	*	*	*	*
Day 22 - 28	2.78	*	*	*	*	*	*	*
Day 22 - 36	1.78	*	*	*	*	*	*	*
Day 22 - 40	*	*	*	*	*	*	*	*
Day 22 - 48	*	*	*	*	*	*	*	*
Day 22 - 52	*	*	*	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	39	41	42	43	44	46	47	48
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	18.5	8.68	4.41	3.85	14.6	8.79	9.07	10.4
Day 1 - 1.5	25.9	11.4	5.91	5.31	18.0	12.0	14.6	12.2
Day 1 - 2.0	20.9	8.34	6.16	14.1	18.1	10.9	22.9	15.1
Day 1 - 2.5	14.8	9.92	6.99	11.4	15.0	8.72	21.8	16.0
Day 1 - 3.0	9.64	13.8	6.00	9.54	13.2	7.74	17.3	13.9
Day 1 - 4.0	7.69	12.2	4.43	7.12	10.5	5.35	12.3	10.8
Day 1 - 5.0	6.31	8.46	4.14	4.52	8.39	3.18	8.57	7.69
Day 1 - 6.0	3.72	9.38	3.67	2.86	7.12	2.78	6.72	4.90
Day 1 - 7.0	2.97	7.38	3.13	1.97	4.82	2.10	4.07	3.58
Day 1 - 8.0	1.59	5.14	2.48	1.59	3.85	2.08	3.30	2.85
Day 4 - 0	8.52	6.43	9.78	6.47	8.35	5.69	13.1	10.5
Day 7 - 0	6.03	4.98	10.1	6.22	10.5	8.88	15.3	9.05
Day 9 - 0	9.08	6.01	9.00	7.66	5.90	6.69	9.75	8.10
Day 11 - 0	8.25	4.56	11.8	5.55	5.37	8.06	12.1	5.94
Day 14 - 0	7.62	4.89	9.18	6.60	5.49	6.62	7.78	7.91
Day 16 - 0	8.16	5.26	12.3	7.95	6.55	6.79	10.0	11.0
Day 18 - 0	7.03	6.55	9.99	6.74	7.92	6.65	11.4	9.37
Day 21 - 0	11.2	3.77	2.53	8.13	4.39	6.07	8.58	6.60
Day 22 - 0	10.4	6.62	12.7	9.85	7.27	5.33	7.30	*
Day 22 - 1.0	23.7	16.9	20.3	13.2	22.1	18.2	4.09	13.8
Day 22 - 1.5	18.9	14.6	25.0	17.0	30.0	17.8	18.4	15.5
Day 22 - 2.0	16.3	11.2	25.2	19.0	28.2	16.1	20.8	13.9
Day 22 - 2.5	14.8	10.5	25.0	19.8	24.5	13.6	19.5	10.9
Day 22 - 3.0	11.8	13.9	24.6	20.8	25.0	13.2	19.7	11.8
Day 22 - 4.0	8.79	12.1	21.6	16.9	18.9	10.5	31.4	9.78
Day 22 - 5.0	6.94	11.4	19.1	15.9	12.8	6.50	18.7	5.75
Day 22 - 6.0	4.23	6.45	15.5	11.5	9.50	5.45	12.1	4.70
Day 22 - 7.0	3.44	4.16	12.4	11.6	6.91	6.00	9.37	5.78
Day 22 - 8.0	2.93	3.39	9.92	9.87	7.94	4.61	7.69	2.73
Day 22 - 10	1.56	2.69	8.11	7.55	5.06	3.69	3.60	5.68
Day 22 - 12	*	*	6.81	6.78	2.82	4.03	3.54	*
Day 22 - 14	*	*	5.33	5.45	*	2.76	2.12	*
Day 22 - 18	*	*	3.45	4.92	1.88	*	*	*
Day 22 - 24	*	*	2.75	5.27	*	*	*	*
Day 22 - 28	*	*	2.37	4.91	*	*	*	*
Day 22 - 36	*	*	1.63	2.26	*	*	*	*
Day 22 - 40	*	*	*	2.50	*	*	*	*
Day 22 - 48	*	*	*	3.18	*	*	*	*
Day 22 - 52	*	*	*	3.21	*	*	*	*
Day 22 - 56	*	*	*	2.89	*	*	*	*
Day 22 - 60	*	*	*	2.05	*	*	*	*
Day 22 - 66	*	*	*	1.92	*	*	*	*
Day 22 - 72	*	*	*	1.67	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	49	52	53	54	55	57	58	59
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	8.34	17.3	6.96	15.3	16.6	6.72	8.00	22.0
Day 1 - 1.5	10.5	23.8	6.55	18.8	15.6	13.4	15.2	21.8
Day 1 - 2.0	13.8	25.0	10.3	16.9	12.6	18.9	18.2	19.6
Day 1 - 2.5	19.8	23.7	13.0	13.1	10.7	20.3	20.6	17.1
Day 1 - 3.0	16.5	22.2	11.4	10.6	9.59	18.6	17.1	15.8
Day 1 - 4.0	12.2	15.3	8.12	8.07	7.30	14.1	14.9	13.6
Day 1 - 5.0	7.97	9.78	6.40	6.06	5.75	10.4	8.99	7.68
Day 1 - 6.0	5.55	5.63	3.99	3.34	3.70	6.62	6.21	5.36
Day 1 - 7.0	3.65	4.16	2.51	2.08	2.85	4.30	4.88	3.58
Day 1 - 8.0	3.30	3.48	2.22	1.70	2.56	3.38	3.36	2.88
Day 4 - 0	11.6	9.88	4.47	8.39	8.39	11.9	7.08	9.08
Day 7 - 0	12.2	8.28	4.49	5.87	12.6	8.63	6.65	9.70
Day 9 - 0	9.12	8.76	2.99	6.17	6.64	7.60	6.33	10.6
Day 11 - 0	9.70	10.8	6.82	7.84	5.24	8.17	6.97	11.1
Day 14 - 0	10.2	8.23	4.27	6.10	5.29	4.58	3.20	6.34
Day 16 - 0	8.00	*	4.62	3.64	4.82	5.79	6.42	7.24
Day 18 - 0	8.76	*	4.82	4.17	6.32	5.42	6.19	9.21
Day 21 - 0	10.0	9.88	7.14	7.89	8.17	4.76	5.01	10.4
Day 22 - 0	13.6	8.61	6.57	4.57	8.44	*	3.74	8.61
Day 22 - 1.0	30.8	22.9	14.7	15.6	17.3	12.4	12.9	22.6
Day 22 - 1.5	32.6	25.5	16.2	24.2	17.2	12.8	17.4	21.7
Day 22 - 2.0	32.2	28.0	18.5	23.8	20.1	12.0	17.4	24.6
Day 22 - 2.5	29.2	24.9	20.1	29.2	19.4	17.1	23.5	19.6
Day 22 - 3.0	28.4	24.1	23.2	28.1	18.2	14.3	21.2	16.5
Day 22 - 4.0	27.5	22.2	19.7	23.6	13.2	8.40	18.8	11.9
Day 22 - 5.0	21.5	17.1	15.1	13.8	11.2	5.36	11.8	7.73
Day 22 - 6.0	14.2	12.4	12.3	9.04	7.72	4.33	8.46	5.25
Day 22 - 7.0	10.5	9.47	8.49	5.97	7.37	3.38	6.22	5.82
Day 22 - 8.0	8.79	7.34	7.29	5.07	6.37	2.43	5.76	3.08
Day 22 - 10	6.14	5.02	4.12	BC	3.39	1.80	3.98	2.89
Day 22 - 12	4.51	3.19	2.82	2.79	2.59	2.39	*	2.27
Day 22 - 14	2.73	2.09	2.57	1.69	2.57	*	2.69	1.94
Day 22 - 18	*	*	1.62	*	2.42	*	2.26	*
Day 22 - 24	*	*	*	*	1.79	*	*	*
Day 22 - 28	*	*	*	*	*	*	*	*
Day 22 - 36	*	*	*	*	*	*	*	*
Day 22 - 40	*	*	*	*	*	*	*	*
Day 22 - 48	*	*	*	*	*	*	*	*
Day 22 - 52	*	*	*	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	60	62	64	65	66	67	69	70
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	12.0	11.1	9.05	8.49	20.1	5.66	14.6	14.8
Day 1 - 1.5	12.3	11.9	10.1	10.5	23.5	7.51	15.3	22.4
Day 1 - 2.0	11.8	12.1	9.39	9.32	26.6	10.7	9.75	31.3
Day 1 - 2.5	11.3	12.8	9.05	9.24	22.7	9.98	7.55	29.7
Day 1 - 3.0	11.1	11.3	7.17	8.51	19.3	9.12	6.73	25.1
Day 1 - 4.0	10.2	8.66	6.46	6.83	14.3	6.51	4.96	18.0
Day 1 - 5.0	7.54	6.49	3.61	4.66	9.02	4.73	3.79	11.2
Day 1 - 6.0	5.07	4.83	2.71	3.44	6.56	3.12	2.91	8.25
Day 1 - 7.0	3.37	3.32	1.98	2.34	4.54	1.69	2.22	5.23
Day 1 - 8.0	2.85	3.05	*	2.90	3.76	2.05	2.19	4.11
Day 4 - 0	9.44	10.4	3.02	2.60	*	7.54	5.48	7.41
Day 7 - 0	7.22	4.42	2.63	6.35	10.4	3.61	3.06	6.18
Day 9 - 0	7.89	5.10	2.82	7.32	6.02	6.33	3.49	7.65
Day 11 - 0	10.1	4.97	4.33	8.43	11.0	2.47	6.48	7.03
Day 14 - 0	9.93	6.43	3.10	7.92	10.9	6.99	3.69	6.25
Day 16 - 0	9.55	2.10	3.25	6.55	11.5	*	2.63	6.77
Day 18 - 0	10.5	2.38	4.20	2.27	11.2	1.58	5.20	6.97
Day 21 - 0	6.91	8.12	3.10	*	9.09	5.44	3.84	4.74
Day 22 - 0	8.25	5.15	3.30	8.05	14.9	*	6.74	7.95
Day 22 - 1.0	16.4	12.8	12.7	10.2	36.6	10.5	15.3	24.6
Day 22 - 1.5	20.5	14.9	14.6	16.2	42.5	13.9	19.9	31.9
Day 22 - 2.0	33.2	15.9	13.3	18.6	43.5	16.6	14.5	42.0
Day 22 - 2.5	18.5	18.4	12.4	23.4	42.9	18.3	11.2	30.2
Day 22 - 3.0	20.2	19.3	9.80	20.0	47.1	15.8	9.56	24.4
Day 22 - 4.0	14.3	13.5	7.74	13.8	33.2	11.3	8.64	18.5
Day 22 - 5.0	10.9	7.87	4.99	12.6	24.5	7.01	5.41	12.5
Day 22 - 6.0	7.35	6.80	3.51	8.61	15.6	5.21	3.81	10.2
Day 22 - 7.0	6.57	5.27	2.99	6.15	13.0	3.33	3.43	7.41
Day 22 - 8.0	7.79	3.70	2.69	5.67	9.57	3.46	3.46	5.53
Day 22 - 10	5.92	3.22	1.90	2.86	6.17	2.32	1.74	7.56
Day 22 - 12	5.57	2.33	1.60	3.53	4.40	2.11	*	3.46
Day 22 - 14	3.62	1.59	*	*	2.95	*	*	3.33
Day 22 - 18	3.33	*	*	2.16	1.92	*	*	2.43
Day 22 - 24	2.92	*	*	*	*	*	*	*
Day 22 - 28	2.90	*	*	*	*	*	*	*
Day 22 - 36	*	*	*	*	*	*	*	*
Day 22 - 40	*	*	*	NS	*	*	*	*
Day 22 - 48	*	*	*	*	*	*	*	*
Day 22 - 52	*	*	*	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; NS - No Sample

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	72	74	75	76	79	80	82	83
Day and Hour	Conc. (ng/ml)							
Day 1 - 0	*	*	*	*	*	*	*	*
Day 1 - 1.0	20.1	12.0	3.18	10.2	14.9	4.56	17.7	12.3
Day 1 - 1.5	18.3	11.7	6.21	14.2	17.4	5.14	17.1	22.8
Day 1 - 2.0	17.8	10.4	6.25	19.7	19.3	8.80	26.6	26.8
Day 1 - 2.5	20.5	8.60	8.88	23.1	22.1	12.3	20.1	45.5
Day 1 - 3.0	17.4	7.17	18.8	11.4	24.7	10.4	15.1	49.4
Day 1 - 4.0	16.4	7.40	8.93	16.7	21.6	6.73	11.4	26.9
Day 1 - 5.0	12.8	3.28	4.68	11.6	16.8	4.30	6.93	18.5
Day 1 - 6.0	9.45	2.48	3.02	7.87	12.1	3.04	4.20	10.4
Day 1 - 7.0	*	1.63	2.45	5.10	9.01	2.63	3.19	7.95
Day 1 - 8.0	5.31	2.64	1.87	3.81	7.11	1.83	2.99	6.13
Day 4 - 0	10.1	7.85	5.39	9.72	10.8	5.82	5.52	10.1
Day 7 - 0	9.25	8.25	6.42	8.01	9.69	3.44	8.83	10.7
Day 9 - 0	12.1	7.59	1.82	9.94	10.5	8.17	6.83	14.2
Day 11 - 0	12.6	6.28	9.65	9.94	12.0	7.77	4.99	11.6
Day 14 - 0	10.8	5.67	1.73	7.03	12.3	7.26	4.46	15.6
Day 16 - 0	12.0	7.19	5.67	12.6	12.8	8.59	8.57	23.5
Day 18 - 0	8.30	7.19	3.31	8.78	14.8	4.81	5.08	13.9
Day 21 - 0	8.33	5.34	4.91	10.4	11.1	2.90	6.96	7.14
Day 22 - 0	10.5	11.0	6.68	8.96	16.3	6.76	7.90	11.3
Day 22 - 1.0	23.4	26.1	10.2	28.5	22.0	9.84	22.7	19.9
Day 22 - 1.5	29.2	27.1	11.9	38.3	15.9	4.41	25.4	34.2
Day 22 - 2.0	31.9	22.4	13.0	42.1	30.9	6.86	21.6	55.1
Day 22 - 2.5	29.5	17.6	11.7	30.6	29.3	7.16	17.7	41.1
Day 22 - 3.0	23.8	13.7	11.6	26.7	28.1	13.7	39.9	15.3
Day 22 - 4.0	18.7	14.0	9.77	23.5	36.6	10.4	13.1	30.2
Day 22 - 5.0	14.6	10.8	6.81	16.0	29.1	8.47	9.98	21.2
Day 22 - 6.0	12.5	7.26	4.25	11.5	13.2	5.62	5.00	15.6
Day 22 - 7.0	10.3	6.07	4.10	9.70	9.58	4.11	5.75	12.6
Day 22 - 8.0	7.87	6.35	4.04	6.96	10.5	3.08	4.95	9.56
Day 22 - 10	7.56	4.12	3.26	4.32	5.15	2.19	3.87	6.84
Day 22 - 12	3.46	3.26	2.41	2.37	6.61	*	*	4.20
Day 22 - 14	3.33	1.64	2.63	2.07	4.78	*	*	2.83
Day 22 - 18	2.43	*	*	*	2.80	*	*	2.48
Day 22 - 24	*	*	*	*	*	*	*	*
Day 22 - 28	*	*	*	*	*	*	*	*
Day 22 - 36	*	*	*	*	*	*	*	*
Day 22 - 40	*	*	*	*	*	*	*	*
Day 22 - 48	*	*	*	*	*	*	*	*
Day 22 - 52	*	*	*	*	*	*	*	*
Day 22 - 56	*	*	*	*	*	*	*	*
Day 22 - 60	*	*	*	*	*	*	*	*
Day 22 - 66	*	*	*	*	*	*	*	*
Day 22 - 72	*	*	*	*	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
PYRIDOSTIGMINE IN HUMAN PLASMA
Analytical Report Pyr/P 94-6

Subject No.	84	86	88	90
Day and Hour	Conc. (ng/ml)			
Day 1 - 0	*	*	*	*
Day 1 - 1.0	18.5	20.2	13.8	14.5
Day 1 - 1.5	19.6	28.4	16.6	27.6
Day 1 - 2.0	13.6	21.1	18.5	13.2
Day 1 - 2.5	11.2	15.9	18.9	12.3
Day 1 - 3.0	11.4	15.5	16.9	10.2
Day 1 - 4.0	7.24	*	15.8	7.37
Day 1 - 5.0	5.42	6.22	15.4	4.81
Day 1 - 6.0	4.01	*	10.4	3.79
Day 1 - 7.0	3.09	3.84	7.13	2.36
Day 1 - 8.0	2.24	2.65	3.49	2.06
Day 4 - 0	6.22	10.0	25.8	6.17
Day 7 - 0	4.81	*	16.5	9.84
Day 9 - 0	5.51	8.02	21.3	12.2
Day 11 - 0	7.27	8.56	23.2	8.00
Day 14 - 0	6.54	9.50	17.3	12.5
Day 16 - 0	*	9.23	19.5	9.16
Day 18 - 0	8.38	7.33	17.6	6.49
Day 21 - 0	7.55	8.68	16.3	6.33
Day 22 - 0	9.26	9.33	17.2	8.32
Day 22 - 1.0	26.9	28.1	38.7	29.9
Day 22 - 1.5	26.5	*	40.1	16.9
Day 22 - 2.0	22.5	37.5	43.8	20.8
Day 22 - 2.5	18.3	33.3	48.0	17.5
Day 22 - 3.0	15.7	31.2	39.8	16.1
Day 22 - 4.0	12.8	21.9	31.1	10.9
Day 22 - 5.0	9.99	17.9	22.8	9.30
Day 22 - 6.0	7.65	12.9	17.4	7.73
Day 22 - 7.0	6.21	9.60	13.1	5.41
Day 22 - 8.0	4.95	7.55	10.4	4.09
Day 22 - 10	3.41	6.22	8.12	3.06
Day 22 - 12	2.81	4.10	4.27	2.01
Day 22 - 14	2.53	3.71	4.52	2.28
Day 22 - 18	2.03	*	3.21	*
Day 22 - 24	*	*	2.28	*
Day 22 - 28	*	*	1.96	*
Day 22 - 36	*	*	*	*
Day 22 - 40	*	*	*	*
Day 22 - 48	*	*	*	*
Day 22 - 52	*	*	*	*
Day 22 - 56	*	*	*	*
Day 22 - 60	*	*	*	*
Day 22 - 66	*	*	*	*
Day 22 - 72	*	*	*	*

* Below Limit of Quantitation - 1.53 ng/ml; BC - Unacceptable Chromatogram

ANALYTICAL RESULTS
WR 238605 IN HUMAN PLASMA
Analytical Report Wr5/P 94-7

Subject No.	1	3	5	7	8	9	10	11	12
Day and Hour	Conc. (ng/ml)								
1-0	*	*	*	*	*	NR	*	*	*
1-2	27.6	25.2	44.2	13.3	12.7	NR	50.0	30.6	26.3
1-4	65.2	70.7	85.4	44.4	34.6	NR	91.4	76.6	71.9
1-6	67.6	78.9	111	60.0	87.6	NR	89.3	86.8	42.0
1-8	76.9	93.4	107	84.3	124	NR	97.9	77.4	84.7
1-12	78.8	90.1	122	73.8	138	NR	116	94.5	67.0
1-16	85.9	88.6	113	60.1	71.6	NR	116	69.1	58.2
1-24	92.5	114	115	75.5	141	NR	85.7	91.6	65.5
2-0	67.7	65.9	55.3	57.3	51.2	NR	80.8	73.7	50.1
3-0	141	162	111	132	123	NR	140	110	71.8
4-0	196	207	156	141	138	*	185	193	131
5-0	278	222	171	180	248	NR	244	252	166
6-0	216	250	265	103	216	NR	227	274	147
7-0	268	292	248	101	210	NR	366	275	174
8-0	247	306	228	144	260	NR	259	259	145
9-0	276	295	262	172	222	NR	334	191	152
10-0	247	318	222	125	245	NR	355	269	121
10-2	277	325	282	265	266	NR	428	203	171
10-4	399	579	385	239	272	NR	487	186	215
10-6	435	461	397	554	285	NR	655	170	245
10-8	397	487	313	533	310	*	552	162	300
10-12	423	488	319	407	343	NR	721	144	228
10-16	377	377	223	226	305	NR	684	157	204
10-24	477	493	373	541	302	NR	399	219	210
12-0	189	247	197	186	157	NR	220	96.6	138
14-0	90.6	160	109	102	69.9	NR	161	39.8	65.4
16-0	51.6	103	54.3	61.9	42.6	*	90.2	34.5	32.4
18-0	25.3	49.0	25.9	35.8	20.2	NR	37.5	16.2	13.4
20-0	20.1	37.7	17.1	21.2	NS	NR	34.6	9.60	8.20

* Below Lower Limit of Quantitation - 1.00 ng/ml; NS - No Sample; NR - Not Run

ANALYTICAL RESULTS
WR 238605 IN HUMAN PLASMA
Analytical Report Wr5/P 94-7

Subject No.	13	16	18	19	20	21	22	24	25
Day and Hour	Conc. (ng/ml)								
1-0	*	*	*	*	*	*	*	*	*
1-2	49.9	42.7	32.8	72.1	62.6	50.3	49.9	31.0	43.9
1-4	144	179	132	273	144	187	205	133	127
1-6	157	158	141	273	174	236	196	140	143
1-8	347	172	130	277	198	290	232	146	141
1-12	353	175	191	322	185	289	286	153	129
1-16	238	177	174	180	165	274	193	123	125
1-24	198	*	192	267	213	226	178	119	141
2-0	149	111	123	132	168	162	111	116	92.2
3-0	329	153	196	331	262	260	195	177	149
4-0	282	230	280	292	240	344	305	204	237
5-0	290	67.9	249	404	283	305	320	294	325
6-0	311	310	247	NS	426	335	311	324	427
7-0	319	344	331	NS	357	292	348	407	395
8-0	296	338	395	NS	459	333	284	389	434
9-0	440	434	267	NS	460	427	382	496	426
10-0	603	335	389	NS	421	382	438	411	607
10-2	603	552	351	NS	418	407	487	397	593
10-4	813	673	683	NS	547	358	689	489	719
10-6	975	705	722	NS	492	582	667	561	830
10-8	903	722	500	NS	643	559	610	603	914
10-12	1060	557	611	NS	567	595	1010	507	826
10-16	1110	505	420	NS	407	537	746	662	808
10-24	727	619	535	NS	661	341	517	512	425
12-0	824	351	329	NS	355	377	*	335	463
14-0	446	183	259	NS	403	215	221	201	307
16-0	507	89.4	146	NS	237	156	126	233	254
18-0	562	40.0	88.3	NS	167	85.3	88.8	103	182
20-0	304	19.7	56.6	NS	89.4	68.3	80.6	68.9	132

* Below Lower Limit of Quantitation - 1.00 ng/ml; NS - No Sample; NR - Not Run

ANALYTICAL RESULTS
WR 238605 IN HUMAN PLASMA
Analytical Report Wr5/P 94-7

Subject No.	26	27	29	30	31	32	33	34	36
Day and Hour	Conc. (ng/ml)								
1-0	*	*	*	*	*	*	*	*	*
1-2	*	77.2	12.7	98.2	129	*	86.9	88.4	29.2
1-4	*	257	72.7	295	177	*	163	200	52.7
1-6	*	325	121	338	141	*	249	223	104
1-8	*	393	157	336	115	*	218	210	83.5
1-12	*	502	178	332	128	*	270	184	77.2
1-16	*	423	184	368	127	*	304	172	74.9
1-24	*	341	193	311	140	*	247	199	95.8
2-0	*	293	125	224	92.8	*	199	156	94.3
3-0	195	360	360	170	170	*	341	414	180
4-0	359	379	287	66.5	254	*	357	440	302
5-0	630	398	375	50.2	334	*	254	326	340
6-0	476	495	407	42.0	333	*	482	562	554
7-0	643	472	414	25.7	398	*	470	414	433
8-0	705	777	456	21.7	404	*	660	437	531
9-0	737	461	544	15.2	413	NR	595	533	572
10-0	526	NS	BC@	13.3	310	NR	454	387	538
10-2	602	NS	451	15.3	437	NR	502	417	501
10-4	848	NS	549	20.3	506	NR	628	527	648
10-6	965	NS	739	21.4	412	NR	705	453	742
10-8	1030	NS	741	21.8	498	NR	759	498	637
10-12	894	NS	794	20.7	493	NR	668	436	592
10-16	1080	NS	762	18.7	480	NR	620	446	465
10-24	945	NS	584	16.0	479	NR	497	460	445
12-0	518	NS	285	8.94	293	NR	444	301	547
14-0	600	NS	365	5.48	224	NR	541	NS	249
16-0	1470	NS	353	3.15	189	NR	322	213	167
18-0	881	NS	260	1.46	149	NR	256	151	110
20-0	677	NS	171	BC##	53.7	NR	215	100	63.2

* Below Lower Limit of Quantitation - 1.00 ng/ml; NS - No Sample; NR - Not Run
BC@ repeat not performed; BC# insufficient sample for repeat analysis

ANALYTICAL RESULTS
WR 238605 IN RAT PLASMA
Analytical Report Wr5/P 95-1

Subject No.	421	422	423	424	425
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	*	*	*	*	*
21	*	*	*	*	*
49	*	*	*	*	*
126	*	*	*	*	*
175	*	*	*	*	*

Subject No.	446	447	448	449	450
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	*	*	*	*	*
21	*	*	*	*	*
49	*	*	*	*	*
126	*	*	*	*	*
175	*	*	*	*	*

Subject No.	471	472	473	474	475
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	5.26	5.68	9.09	11.5	*
21	20.2	13.9	39.3	28.9	28.5
49	38.9	30.4	74.4	45.8	60.0
126	46.6	24.6	112	61.4	54.6
175	51.0	25.9	157	80.4	60.5

Subject No.	496	497	498	499	500
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	*	4.53	3.15	3.39	4.23
21	37.0	6.76	19.0	18.8	15.3
49	63.5	48.4	35.6	44.9	29.0
126	94.0	65.7	60.1	81.9	49.0
175	120	89.5	88.8	97.9	49.9

* Below Lower Limit of Quantitation - 2.00 ng/ml

ANALYTICAL RESULTS
WR 238605 IN RAT PLASMA
Analytical Report Wr5/P 95-1

Subject No.	521	522	523	524	525
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	21.7	23.7	32.6	26.1	33.7
21	73.4	111	99.0	87.2	83.3
49	110	193	146	161	182
126	228	365	380	314	312
175	247	312	317	392	352

Subject No.	546	547	548	549	550
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	26.5	31.4	31.9	24.9	34.3
21	107	125	169	94.7	161
49	226	157	180	140	188
126	584	386	475	226	341
175	646	472	550	282	537

Subject No.	571	572	573	574	575
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	70.6	163	180	138	161
21	696	396	535	650	671
49	591	396	1050	692	1130
126	1320	1510	1610	1110	1610
175	1350	1030	1350	1400	1410

Subject No.	596	597	598	599	600
Day	Concentration (ng/ml)				
0	*	*	*	*	*
1	122	133	98.3	157	119
21	608	553	499	755	620
49	802	754	855	940	489
126	1590	1030	1260	1470	1250
175	2770	1240	1230	1740	1630

* Below Lower Limit of Quantitation - 2.00 ng/ml

WR 238605 Plasma data.final

Study No. WR5/BP 95-2

Subject	1	2	3	5	6
Time (hr)					
0 *	*	*	*	*	
0.5 *	*	*	*		5.38
1	15.8 *		3.08 *		7.13
2	44.5	18.6	35.9	8.29	87.1
4	116	130	124	115	274
8	278	230	313	315	394
12	308	237	295	500	440
16	279	267	252	363	367
24	223	190	225	339	335
36	654	486	608	1050	781
48	568	511	505	835	719
72	586	323	366	696	630
120	313	266	258	522	437
216	476	382	329	642	582
360	283	253	303	390	364
528	309	349	315	272	328
696	438	299	404	323	274
720	370	366	369 NS	NS	
864	236	425	329	349	274
1032	226	187	307	207	202
1200	272	153	200	142	199
1536	207	81.3	121	97.4	130
2424	60.2	24.9	61.6	21.1	31.2

*=below assay sensitivity (1.00 ng/ml)

NS=no sample

Concentrations in ng/ml free base

2/10/97

WR 238605 Plasma data.final

Study No. WR5/BP 95-2

Subject	7	8	9	11	12
Time (hr)					
0 *	*	*	*	*	*
0.5 *	*	*		21*	
1 *		2.14 *		12	2.05
2	62.1	35.3	22.3	68.2	59.2
4	218	157	137	209	121
8	336	436	258	395	218
12	345	397	328	353	210
16	366	412	305	368	184
24	275	389	340	305	165
36	687	822	642	703	390
48	597	793	678	612	400
72	571	596	496	375	351
120	379	370	389	373	223
216	404	484	403	494	351
360	309	639	298	340	261
528	317	320	383	302	244
696	240	277	339	388	333
720 NS	NS		296	523	289
864	175	236	337	255	317
1032	119	230	283	376	280
1200	91.5	125	117	317	188
1536	43.7	70.8	80.4	157	156
2424	7.45	17.5	21.8	40.9	43.2

*=below assay sensitivity (1.00 ng/ml)

NS=no sample

Concentrations in ng/ml free base

2/10/97

WR 238605

blood data.final

Study No. WR5/BP 95-2

Subject	1	2	3	5	6
Time (hr)					
0 *	*	*	*	*	
0.5 *	*	*	*	*	
1	20.7 *		6.01 *		5.68
2	85.2	48.1	66.3	18.5	175
4	318	267	217	214	412
8	718	419	430	506	650
12	770	448	465	740	735
16	764	421	409	683	622
24	653	370	378	592	611
36	1230	761	912	1470	1270
48	1430	802	725	1270	1120
72	1380	665	652	1120	983
192	895	470	460	827	716
216	1140	682	632	991	997
360	961	431	466	636	606
528	861	535	478	601	687
696	383	414	426	388	343
720	563	587	527 NS	NS	
864	496	437	392	329	237
1032	375	296	314	237	213
1200	331	171	247	183	178
1536	230	153	186	106	87
2424	90.2	41.3	59.5	25	32.3

*=below assay sensitivity (2.00 ng/ml)

NS=no sample

Concentrations in ng/ml free base

2/10/97

WR 238605

blood data.final

Study No. WR5/BP 95-2

Subject	7	8	9	11	12
Time (hr)					
0 *	*	*	*	*	
0.5 *	*	*		4.34 *	
1 *		3.41 *		29.1	5.18
2	96.7	60.5	37.3	141	127
4	348	199	199	298	263
8	530	537	388	545	384
12	547	612	449	583	413
16	545	663	436	618	390
24	448	606	462	588	387
36	1010	1230	839	1400	855
48	870	1250	891	1110	779
72	835	880	671	820	711
192	531	582	469	711	477
216	698	759	632	850	619
360	441	802	431	508	464
528	458	478	430	651	475
696	283	241	401	442	384
720 NS	NS		443	619	497
864	178	165	294	479	314
1032	145	143	198	291	273
1200	93.5	120	85.9	279	195
1536	41.9	74.2	64.6	153	145
2424	9.71	22.1	17.9	43.1	57.1

*=below assay sensitivity (2.00 ng/ml)

NS=no sample

Concentrations in ng/ml free base

2/10/97

2/10/97

Halofantrine (ng/ml)

95-4 Final Data

Day	Hour	1	2	3	4	5	6	7	8
1	0	*	*	*	*	*	*	*	*
1	0.5	*	*	*	*	*	*	*	*
1	1	1.66	*	*	8.39	15.1	*	2.97	29.3
1	2	14.2	*	*	40.7	30.4	*	19.5	71.9
1	3	20.1	*	*	104	43.2	*	10.9	122
1	4	25.7	2.87	*	85.2	26.8	*	13.1	159
1	6	30.5	14.0	*	153	64.3	*	32.5	346
1	8	26.7	58.9	*	99.1	29.8	*	20.7	193
1	10	40.5	64.7	*	35.7	59.2	*	23.0	114
1	12	33.0	60.8	*	54.0	25.4	*	22.9	122
2	0	11.1	46.2	*	25.0	12.3	*	15.7	41.9
3	0	29.0	22.7	*	47.0	26.4	*	31.5	55.5
4	0	43.1	14.5	*	156	23.4	*	25.6	58.7
4	2	48.4	41.5	*	831	77.7	*	61.0	128
4	4	92.9	77.8	*	785	104	*	356	236
4	6	107	163	*	754	145	*	998	229
4	8	87.2	135	*	685	138	*	471	220
4	12	89.8	103	*	544	108	*	310	170
5	0	55.3	85.9	*	256	45.8	*	209	83.8
6	0	103	53.3	*	219	36.5	*	73.3	90.9
7	0	99.0	61.1	*	155	46.3	*	127	140
7	2	138	61.5	*	200	75.9	*	135	181
7	4	227	197	*	375	101	*	316	230
7	6	227	67.7	*	357	139	*	235	272
7	8	268	124	*	304	141	*	283	270
7	12	192	157	*	227	59.0	*	191	177
8	0	121	90.6	*	160	42.5	*	107	105
9	0	157	58.8	*	125	60.8	*	112	185
10	0	116	103	*	154	65.6	*	98.6	133
11	0	103	117	*	139	75.8	*	115	NS
12	0	100	142	*	146	72.4	*	153	NS
13	0	123	141	*	141	60.8	*	173	NS
14	0	109	165	*	196	98.2	*	119	NS
14	2	122	115	*	229	174	*	135	NS
14	4	*	189	116	460	218	*	192	NS
14	6	162	207	*	504	195	*	232	NS
14	8	177	298	*	427	127	*	243	NS
14	12	163	277	*	268	121	*	270	NS
14	12	163	199	*	268	121	*	270	NS

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

Halofantrine (ng/ml)

95-4 Final Data

Day	Hour	1	2	3	4	5	6	7	8
15	0	135	114	*	176	86.5	*	205	NS
16	0	82.4	88.4	*	141	83.3	*	229	NS
17	0	90.7	130	*	170	83.1	*	198	NS
18	0	180	216	*	146	107	*	178	NS
19	0	165	234	*	136	95.0	*	142	NS
20	0	167	229	*	156	163	*	166	NS
21	0	139	166	*	157	92.8	*	281	NS
21	2	137	348	*	163	118	*	319	NS
21	4	206	596	*	463	82.9	*	291	NS
21	6	316	724	*	472	284	*	433	NS
21	8	180	637	*	397	219	*	203	NS
21	12	236	478	*	390	189	*	198	NS
22	0	133	242	*	175	143	*	107	NS
25	0	131	220	*	153	131	*	176	NS
29	0	365	393	*	138	NS	*	180	NS
32	0	173	199	*	113	NS	*	181	NS
33	0	158	(34) 137	*	NS	NS	*	(35) 86.6	NS
36	0	162	(35) 165	*	116	NS	*	134	NS
39	0	123	NS	*	(37) 101	NS	*	157	NS
42	0	237	NS	*	NS	NS	*	128	NS
42	0.5	252	NS	*	NS	NS	*	141	NS
42	1	282	NS	*	NS	NS	*	163	NS
42	2	310	NS	*	NS	NS	*	131	NS
42	3	393	NS	*	NS	NS	*	160	NS
42	4	335	NS	*	NS	NS	*	232	NS
42	6	443	NS	*	NS	NS	*	204	NS
42	8	474	NS	*	NS	NS	*	169	NS
42	10	390	NS	*	NS	NS	*	165	NS
42	12	323	NS	*	NS	NS	*	198	NS
43	0	148	NS	*	NS	NS	*	119	NS
44	0	148	NS	*	NS	NS	*	NS	NS
45	0	96.4	NS	*	NS	NS	*	65	NS
48	0	94.3	NS	*	NS	NS	*	(49) 42.4	NS
51	0	79.5	NS	*	NS	NS	*	51.9	NS
54	0	70.5	NS	*	NS	NS	*	50.5	NS
57	0	74.8	NS	*	NS	NS	*	89.9	NS
72	0	88.9	NS	NS	NS	NS	*	32.3	NS
180	0	13.9	NS	*	NS	NS	NR	19.6	NS

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

Halofantrine (ng/ml)

95-4 Final Data

Day	Hour	9	10	11	12	13	14	15	16
1	0	*	*	1.70	*	*	*	*	*
1	0.5	*	*	13.3	*	*	*	2.72	10.3
1	1	6.84	1.89	40.0	*	*	6.36	17.6	12.2
1	2	29.9	59.0	79.5	*	*	20.2	65.3	23.0
1	3	164	171	83.3	*	*	61.9	80.1	52.5
1	4	340	234	152	*	*	75.2	173	46.0
1	6	328	326	92.5	*	*	82.0	116	51.3
1	8	238	162	99.9	*	*	66.9	102	33.3
1	10	158	147	81.0	*	*	74.2	74.7	24.0
1	12	99.3	121	64.5	*	*	58.9	57.8	23.1
2	0	44.1	54.9	23.9	*	*	27.6	37.9	15.5
3	0	53.1	36.3	166	*	*	23.4	108	25.3
4	0	100	105	104	*	*	29.0	80.6	31.9
4	2	109	81.1	147	*	*	66.2	153	56.5
4	4	293	209	331	*	*	97.3	154	119
4	6	241	176	234	*	*	108	175	126
4	8	190	117	238	*	*	71.3	134	71.1
4	12	118	94.1	173	*	*	65.0	109	54.4
5	0	58.7	58.2	76.3	*	*	49.0	98.0	41.9
6	0	67.4	50.3	116	*	*	75.0	78.6	55.7
7	0	69.3	44.0	76.0	*	*	53.1	81.2	52.6
7	2	88.2	85.3	116	*	*	77.1	141	118
7	4	206	150	235	*	*	120	277	149
7	6	248	149	208	*	*	120	216	183
7	8	228	138	199	*	*	111	163	127
7	12	115	80.5	132	*	*	81.6	138	87.9
8	0	83.3	72.2	78.0	*	*	55.9	83.4	50.9
9	0	130	174	105	*	*	90.7	90.5	66.1
10	0	88.9	116	78.4	*	*	150	124	60.5
11	0	106	120	70.4	*	*	194	119	73.2
12	0	154	133	89.6	*	*	159	115	63.8
13	0	104	111	104	*	*	120	105	78.2
14	0	83.6	132	78.9	*	*	158	100	72.6
14	2	163	384	197	*	*	196	270	96.4
14	4	293	882	659	*	*	284	273	121
14	6	382	722	856	*	*	298	353	111
14	8	305	962	771	*	*	266	659	91.1
14	12	222	658	549	*	*	209	298	90.2

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

Halofantrine (ng/ml)

95-4 Final Data

Day	Hour	9	10	11	12	13	14	15	16
15	0	120	241	180	*	*	138	136	81.0
16	0	123	191	242	*	*	168	118	77.5
17	0	121	238	144	*	*	158	191	92.0
18	0	157	204	137	*	*	160	163	117
19	0	141	240	167	*	*	150	117	107
20	0	111	195	145	*	*	155	110	223
21	0	147	144	134	*	*	134	76.2	98.3
21	2	162	575	137	*	*	268	142	157
21	4	278	951	430	*	*	255	318	226
21	6	457	687	438	*	*	278	311	243
21	8	414	715	258	*	*	214	245	187
21	12	217	495	199	*	*	175	197	160
22	0	154	223	131	10.2	10.2	158	93.9	133
25	0	73.6	230	117	*	*	172	78.3	118
29	0	130	242	156	*	*	352	179	118
32	0	140	345	144	*	*	401	159	212
33	0	NS	NS	NS	NS	NS	NS	NS	NS
36	0	75.1	317	NS	*	*	379	138	173
39	0	113	126	161	*	*	452	168	250
42	0	124	180	150	*	*	NS	182	113
42	0.5	103	184	143	*	*	NS	200	147
42	1	78.6	137	137	*	*	NS	260	138
42	2	199	75.6	294	*	*	NS	246	153
42	3	186	1210	386	*	*	NS	317	405
42	4	198	770	329	*	*	NS	400	391
42	6	285	678	354	*	*	NS	542	352
42	8	197	516	298	*	*	NS	277	234
42	10	197	657	246	*	*	NS	257	237
42	12	171	416	188	*	*	NS	332	193
43	0	108	273	109	*	*	NS	173	175
44	0	91.9	167	82.2	*	*	NS	150	163
45	0	NS	NS	87.9	*	*	NS	116	NS
48	0	56.6	(49) 99.5	NS	*	*	NS	90.0	NS
51	0	45.2	102	NS	*	*	NS	64.9	NS
54	0	57.8	81.3	NS	*	*	NS	85.4	NS
57	0	46.5	NS	NS	*	*	NS	40.2	NS
72	0	41.5	NS	NS	*	*	NS	46.4	(76) 37.8
180	0	6.37	NS	NS	*	*	NS	9.65	8.08

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

95-4 Final Data

Halofantrine Metabolite (ng/ml)

2/10/97

Day	Hour	1	2	3	4	5	6	7	8
1	0	*	*	*	*	*	*	*	*
1	0.5	*	*	*	*	*	*	*	*
1	1	*	*	*	*	*	*	*	*
1	2	1.08	*	*	6.66	2.69	*	1.57	2.18
1	3	5.17	*	*	25.5	8.51	*	5.45	10.7
1	4	6.72	1.55	*	29.8	14.8	*	7.72	44.2
1	6	12.8	5.20	*	69.1	9.23	*	6.37	54.5
1	8	12.7	7.19	*	70.9	33.0	*	8.29	89.9
1	10	20.8	8.09	*	39.4	15.2	*	8.27	73.3
1	12	17.3	9.29	*	47.7	47.1	*	6.27	66.1
2	0	14.8	10.6	*	48.1	22.2	*	5.87	80.6
3	0	36.0	8.31	*	93.4	24.2	*	25.1	55.6
4	0	56.9	40.5	*	168	58.8	*	59.1	72.8
4	2	52.5	39.8	*	240	57.9	*	67.3	131
4	4	83.8	58.2	*	191	56.5	*	97.8	167
4	6	93.7	45.7	*	268	80.2	*	112	218
4	8	74.2	50.4	*	300	125	*	88.0	187
4	12	106	63.2	*	270	122	*	82.8	200
5	0	122	63.4	*	322	(10) 122	*	99.1	146
6	0	191	71.3	*	272	125	*	84.6	186
7	0	196	80.8	*	305	104	*	105	238
7	2	170	118	*	264	145	*	95.8	291
7	4	226	89.1	*	348	163	*	168	329
7	6	245	112	*	347	209	*	134	379
7	8	259	121	*	283	235	*	85.0	444
7	12	217	136	*	229	93.7	*	140	427
8	0	217	109	*	319	151	*	88.2	360
9	0	341	141	*	285	196	*	111	297
10	0	363	182	*	279	194	*	111	413
11	0	355	234	*	267	272	*	125	500
12	0	438	240	*	250	271	*	158	NS
13	0	454	250	*	261	254	*	133	NS
14	0	368	221	*	299	308	*	100	NS
14	2	294	261	297	295	339	*	101	NS
14	4	*	304	*	413	357	*	99.5	NS
14	6	411	318	*	352	368	*	127	NS
14	8	401	320	*	360	310	*	170	NS
14	12	370	302	*	245	304	*	300	NS

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

95-4 Final Data Halofantrine Metabolite (ng/ml)

Day	Hour	1	2	3	4	5	6	7	8
15	0	571	230	*	315	326	*	187	NS
16	0	422	206	*	285	335	*	251	NS
17	0	414	268	*	319	294	*	211	NS
18	0	567	281	*	360	397	*	202	NS
19	0	552	306	*	338	349	*	179	NS
20	0	504	324	*	445	596	*	163	NS
21	0	516	303	*	456	185	*	252	NS
21	2	575	325	*	361	68.6	*	302	NS
21	4	629	363	*	454	480	*	261	NS
21	6	724	432	*	411	424	*	384	NS
21	8	434	449	*	492	374	*	224	NS
21	12	457	473	*	531	469	*	216	NS
22	0	548	350	*	450	491	*	223	NS
25	0	598	464	*	462	438	*	194	NS
29	0	535	443	*	466	NS	*	210	NS
32	0	616	602	*	355	NS	*	332	NS
33	0	509	(34) 568	*	NS	NS	*	(35) 176	NS
36	0	513	(35) 569	*	354	NS	28.1	267	NS
39	0	497	NS	*	(37) 301	NS	18.2	277	NS
42	0	664	NS	*	NS	NS	15.1	238	NS
42	0.5	656	NS	*	NS	NS	13.5	286	NS
42	1	727	NS	*	NS	NS	14.3	346	NS
42	2	748	NS	*	NS	NS	10.8	213	NS
42	3	921	NS	*	NS	NS	13.6	292	NS
42	4	653	NS	*	NS	NS	15.8	372	NS
42	6	829	NS	*	NS	NS	13.1	352	NS
42	8	912	NS	*	NS	NS	13.3	333	NS
42	10	513	NS	*	NS	NS	13.0	348	NS
42	12	724	NS	*	NS	NS	13.0	397	NS
43	0	285	NS	*	NS	NS	8.51	229	NS
44	0	593	NS	*	NS	NS	9.75	NS	NS
45	0	625	NS	*	NS	NS	7.27	174	NS
48	0	408	NS	*	NS	NS	4.96	(49) 81.8	NS
51	0	341	NS	*	NS	NS	3.56	88.0	NS
54	0	271	NS	*	NS	17.7	2.34	114	NS
57	0	184	NS	*	NS	NS	1.46	76.5	NS
72	0	455	NS	NS	NS	NS	*	17.0	NS
180	0	15.5	NS	*	NS	NS	NR	3.34	NS

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

Halofantrine Metabolite (ng/ml)

95-4 Final Data

Day	Hour	9	10	11	12	13	14	15	16
1	0	*	*	*	*	*	*	*	*
1	0.5	*	*	*	*	*	*	*	*
1	1	*	*	2.86	*	*	*	*	1.56
1	2	2.84	4.05	12.4	*	*	2.51	6.39	9.50
1	3	10.7	19.1	18.7	*	*	12.6	12.9	19.2
1	4	18.5	27.3	32.4	*	*	20.5	45.8	20.2
1	6	30.7	53.4	28.6	*	*	24.4	25.5	24.5
1	8	31.3	36.6	33.0	*	*	21.4	22.6	20.7
1	10	36.2	34.0	39.5	*	*	31.6	19.8	17.8
1	12	25.7	22.1	35.3	*	*	34.7	29.9	17.3
2	0	20.8	31.8	30.5	*	*	29.4	28.1	23.8
3	0	52.6	34.7	134	*	*	37.2	68.9	58.4
4	0	75.1	124	149	*	*	58.9	99.3	89.8
4	2	65.5	85.0	123	*	*	61.2	116	80.6
4	4	131	97.9	178	*	*	73.9	141	105
4	6	97.1	92.6	167	*	*	91.9	184	127
4	8	117	108	161	*	*	58.0	150	103
4	12	73.4	97.3	142	*	*	81.6	102	102
5	0	103	97.6	107	*	*	68.5	143	109
6	0	104	91.3	143	*	*	121	178	165
7	0	109	68.3	110	*	*	72.3	183	223
7	2	112	68.6	108	*	*	121	170	245
7	4	175	94.2	133	*	*	140	262	223
7	6	188	104	126	*	*	109	173	289
7	8	177	105	124	*	*	139	128	195
7	12	180	92.2	117	*	*	117	198	224
8	0	153	90.9	119	*	*	113	162	158
9	0	184	139	158	*	*	151	210	230
10	0	207	158	107	*	*	229	239	243
11	0	237	171	99.5	*	*	250	234	239
12	0	257	163	112	*	*	303	208	246
13	0	276	154	139	*	*	282	243	267
14	0	251	146	102	*	*	361	210	307
14	2	294	192	112	*	*	341	332	296
14	4	307	232	186	*	*	350	328	277
14	6	355	253	171	*	*	368	361	242
14	8	334	392	192	*	*	363	305	229
14	12	339	361	174	*	*	347	436	262

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

2/10/97

Halofantrine Metabolite (ng/ml)

95-4 Final Data

Day	Hour	9	10	11	12	13	14	15	16
15	0	269	206	134	*	*	307	276	340
16	0	314	202	169	*	*	297	247	311
17	0	298	261	168	*	*	332	439	353
18	0	332	254	176	*	*	363	391	504
19	0	332	285	197	*	*	343	292	436
20	0	323	276	182	*	*	287	221	553
21	0	279	249	183	*	*	295	156	449
21	2	313	290	176	*	*	321	238	490
21	4	389	323	302	*	*	263	279	358
21	6	370	336	308	*	*	304	258	406
21	8	419	380	202	*	*	240	319	429
21	12	409	296	225	*	*	271	245	472
22	0	358	294	185	*	*	322	206	444
25	0	380	364	190	*	*	321	197	513
29	0	379	319	234	*	*	394	413	400
32	0	286	315	215	*	*	413	395	406
33	0	NS	NS	NS	NS	NS	NS	NS	NS
36	0	235	499	NS	*	*	515	414	349
39	0	300	245	254	*	*	603	427	421
42	0	272	250	286	*	*	NS	298	242
42	0.5	168	380	306	*	*	NS	339	329
42	1	145	188	225	*	*	NS	466	330
42	2	208	431	294	*	*	NS	313	294
42	3	293	444	296	*	*	NS	565	501
42	4	185	483	276	*	*	NS	687	531
42	6	353	433	287	*	*	NS	288	334
42	8	308	407	281	*	*	NS	320	340
42	10	312	370	268	*	*	NS	313	390
42	12	316	419	265	*	*	NS	379	326
43	0	293	439	211	*	*	NS	402	345
44	0	251	307	189	*	*	NS	370	423
45	0	NS	NS	208	*	*	NS	353	NS
48	0	130	(49) 205	NS	*	*	NS	272	NS
51	0	73.3	173	NS	*	*	NS	130	NS
54	0	113	104	NS	*	*	NS	71.2	NS
57	0	35.8	NS	NS	*	*	NS	40.5	NS
72	0	18.3	NS	NS	*	*	NS	8.41	(76) 27.2
180	0	1.03	NS	NS	*	*	NS	1.20	2.22

NS = no sample; * = below assay sensitivity (1.00 ng/ml); NR = not run; numbers in parenthesis indicate rescheduled day or hour

Final Results

Gen/P 96-3

2/10/97

	2nd Shipment	
	Group A Sample	
	Gentamicin	Paromomycin
Sample ID	$\mu\text{g/ml}$	$\mu\text{g/ml}$
Benson, P.	*	*
Boyd, R.	*	*
Genest, G.	NS	NS
Grant, E.	*	*
Kessenich, J.	*	*
Rowton, E.	*	*
Tomek, D.	*	*
Turiansky, G.	*	*
Ruiz-VanBuren, E.	*	*
Figuerola, L.	*	*
Hudson, T.	*	*
Martin, R.	*	*
Ohrt, C.	*	*
Roth, N.	*	*
Vassell, R.	*	*
Dornak, T.	*	*
Merrill, G.	*	*
Zikry, A.	*	*
	Group B Sample	
	Gentamicin	Paromomycin
	$\mu\text{g/ml}$	$\mu\text{g/ml}$
Benson, P.	*	*
Boyd, R.	NS	NS
Genest, G.	*	*
Grant, E.	*	*
Kessenich, J.	*	*
Rowton, E.	*	*
Tomek, D.	*	*
Turiansky, G.	*	*
Ruiz-VanBuren, E.	*	*
Figuerola, L.	*	*
Hudson, T.	*	*
Martin, R.	*	*
Ohrt, C.	*	*
Roth, N.	*	*
Vassell, R.	*	*
Dornak, T.	*	*
Merrill, G.	*	*
Zikry, A.	*	*